NATIONAL STRATEGY TO REDUCE CONGESTION

CORRIDORS OF THE FUTURE
PHASE II APPLICATION

INTERSTATE 70 DEDICATED TRUCK LANES

MISSOURI : ILLINOIS : INDIANA : OHIO

MoDOT

Illinois Department of Transportation

INDIANA DEPARTMENT OF TRANSPORTATION INDOT

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

CORRIDORS OF THE FUTURE
PHASE II APPLICATION

LETTERS OF COMMITMENT

INDIANA DEPARTMENT OF TRANSPORTATION

Driving Indiana's Economic Growth

100 North Senate Avenue
Room N758
Indianapolis, Indiana 46204-2216 (317) 232-3166 FAX: (317) 232-0238

Mitchell E. Daniels, Jr., Governor
Karl B. Browning, Commissioner

May 24, 2007

Mr. James D. Ray, Chief Counsel
Federal Highway Administration
400 Seventh Street S.W.
Washington, D.C. 20590

Phase II Application requesting designation as a "Corridor of the Future"
I-70 Dedicated Truck Only Lanes Project

Dear Mr. Ray:

The Indiana Department of Transportation, in partnership with the Missouri, Illinois and Ohio Departments of Transportation (DOTs), is pleased to submit this Phase II Application requesting designation of Interstate 70 through our four states as a "Corridor of the Future." Included with our application are letters of support and commitment from all coalition DOTs, the Metropolitan Planning Organizations (MPOs) along the corridor, and the American Trucking Institute Chapters of Missouri, Illinois, Indiana and Ohio.

Our application proposes to develop an 800 mile, multi-state segment of Interstate 70 into a dedicated truck only lanes (TOL) corridor. We are committed to advancing this concept because we recognize that the separation of truck traffic from vehicular traffic is a viable strategy to reduce congestion, improve mobility and safety through both the urban and rural areas of the corridor. We also recognize that providing TOLs will improve the flow of goods and encourage economic growth throughout the Midwest and the nation.

If selected, the Indiana Department of Transportation agrees to coordinate with the Corridor Coalition and participate financially in the corridor-wide planning, research, design and financial feasibility analysis needed to advance the concept of dedicated truck only lanes (TOLs). We understand that this will include:

- Entering into a Corridor of the Future Program Development Agreement (CFPDA) with the coalition of states, municipalities, FHWA and other relevant Federal agencies;
- Committing to the timeline as presented in Section 3 of our application;
- Supporting and conducting the public participation and planning feasibility activities needed to advance this project's development;
- Committing to environmental streamlining and advancing innovative project design, development and delivery options to "fast-track" the proposed project;

- Evaluating a variety of innovative funding and financial options including but not limited to public private partnerships (P3s), tolling, and the other funding strategies identified in Section 3 of our application;
- Advocating to our legislature the regulatory changes needed to advance the reasonable and realistic innovative financing options recommended through our financial feasibility analysis; and
- Beginning the necessary steps to identify and commit funding needed to advance the project.

Attached please find our application. It was prepared to address the nine Phase II issues identified in the September 5, 2006, Federal Register/Vol. 71, No171/ pp. 52364-6. Our application is organized to provide you with answers to your three questions:

- What is the clear need for congestion reduction on the I-70 Corridor?
- Why are truck only lanes the clear solution?
- What is our Path to Success?

As you will clearly see through our application, the I-70 TOL project presents an innovative solution to the problem of congestion and safety and has the potential to serve as a national demonstration project that will set a new standard for the Interstate of the future. We encourage FHWA and USDOT to select Interstate-70, through Missouri, Illinois, Indiana and Ohio as a "Corridor of the Future."

Respectfully,

Karl B. Browning
Commissioner,
Indiana Department of Transportation

Missouri
Department
of Transportation

MoDOT

Pete K. Rahn, Director

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April 13, 2007

Mr. James D. Ray, Chief Counsel
Federal Highway Administration
400 Seventh Street S.W.
Washington, D.C. 20590

RE: Commitment and Support for I-70 Dedicated Truck Lanes Project Phase 2 Application requesting designation as a "Corridor of the Future"

Dear Mr. Ray:

The Missouri Department of Transportation joins with the Indiana Department of Transportation in submission and support of the Phase 2 application requesting designation of Interstate 70 through Missouri, Illinois, Indiana, and Ohio as a "Corridor of the Future."

Our joint application proposes to develop dedicated truck lanes along this 789 mile corridor. We are committed to advancing this concept because we recognize that the separation of truck traffic from vehicular traffic is a viable strategy to reduce congestion, improve mobility and safety through both the urban and rural areas of the corridor. We also recognize that providing dedicated truck lanes will encourage commerce and economic growth throughout the Midwest.

If selected, the Missouri Department of Transportation agrees to coordinate with and participate at the appropriate level both financially and by providing staff liaisons on corridor-wide planning, research, design and financial analyses needed to advance the concept of dedicated truck lanes. We understand that this may include:

- Entering into Memorandums of Understanding (MOU) with participating states and FHWA to advance the concept;
- Supporting or conducting the public participation, planning, and environmental process activities needed to advance this project's development and delivery as appropriate for the state of Missouri;
- Evaluating and considering a variety of funding and financing options including but not limited to public private partnerships, tolling, and the other innovative funding strategies identified in Section 3 of our application;
- Presenting to our State General Assembly any regulatory changes needed to advance reasonable and realistic innovative financing options based on our evaluation;

- Securing the needed legal commitments to insure the project will continue to be advanced beyond the current administration, and
- Beginning the necessary steps to establish funding needed to advance the project.

We encourage USDOT to select Interstate 70, from Missouri through Ohio, as a "Corridor of the Future."

Sincerely,

Pete K. Rahn
Director

pr\kh

Illinois Department of Transportation

Office of the Secretary
2300 South Dirksen Parkway / Springfield, Illinois / 62764
Telephone 217/782-5597

May 10, 2007

Mr. James D. Ray, Chief Counsel
Federal Highway Administration
400 Seventh Street S.W.
Washington, D.C. 20590

Dear Mr. Ray:

The Illinois Department of Transportation (IDOT) joins with the Indiana Department of Transportation in submission and support of the Phase 2 application requesting designation of Interstate 70 through Missouri, Illinois, Indiana and Ohio as a "Corridor of the Future."

Our joint application proposes to develop dedicated truck lanes along this 789 mile corridor. We are committed to advancing this concept because we recognize that the separation of truck traffic from vehicular traffic is a viable strategy to reduce congestion, make our roads safer and improve mobility through both the urban and rural areas of the corridor. We also recognize that providing dedicated truck lanes can encourage commerce and economic growth throughout the midwest.

If selected, IDOT agrees to coordinate with and participate both financially and by providing staff support on corridor-wide planning, research, design and financial analyses needed to advance the concept of dedicated truck lanes. We understand that this may include:

- entering into Memorandums of Understanding with participating states and FHWA to advance the concept;
- supporting or conducting the public participation, planning, and environmental process activities needed to advance this project's development and delivery;
- evaluating and considering a variety of funding and financing options;
- discussing with our legislature any regulatory changes needed to advance reasonable and realistic innovative financing options based on our evaluation;
- securing the needed legal commitments to ensure the project will continue to be advanced beyond the current administration; and
- beginning the necessary steps to establish and commit funding needed to advance the project.

We encourage US DOT to select Interstate 70, from Missouri through Ohio, as a "Corridor of the Future."

Sincerely,

Milton R. Sees
Acting Secretary

OHIO DEPARTMENT OF TRANSPORTATION
CENTRAL OFFICE, P.O. BOX 899, COLUMBUS, OHIO 43216-0899

April 30, 2007

Mr. James D. Ray
Chief Counsel
Federal Highway Administration
400 Seventh Street S.W.
Washington, D.C. 20590

Re: FHWA "Corridor of the Future" Phase 2 Application

Dear Mr. Ray:

The Ohio Department of Transportation joins with the Indiana Department of Transportation in submission and support of the Phase 2 application requesting designation of Interstate 70 through Missouri, Illinois, Indiana, and Ohio as a "Corridor of the Future."

This joint application seeks to study dedicated truck lanes along this 789 mile corridor. The application is important to address congestion and mobility along the corridor, and explore innovative concepts for both design and finance. We also emphasize that improving freight mobility is a key economic development initiative for Ohio.

If this proposal is selected for funding, ODOT agrees to contribute, as appropriate, the necessary staff and information to carry out the work. Part of this work will involve coordination with our partner states on corridor-wide planning, research, design and financial analyses needed to evaluate the concept of dedicated truck lanes. We understand that this may include entering into Memorandums of Understanding (MOU) with participating states and FHWA to advance the concept; supporting or conducting the public participation, planning, and environmental process activities needed to advance the conceptual development; and evaluating and considering a variety of funding and financing options including but not limited to public private partnerships, tolling, and the other innovative funding strategies identified in Section 3 of our application.

We encourage USDOT to select Interstate 70, from Missouri through Ohio, as a "Corridor of the Future."

Respectfully,

James G. Beasley, P.E., P.S.
Director

JGB:hw

CORRIDORS OF THE FUTURE
PHASE II APPLICATION

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CORRIDORS OF THE FUTURE
PHASE II APPLICATION

INTRODUCTION

INTRODUCTION

Interstate 70 (I-70) travels through the "heartland" of America. It carries regional, national and international commodities between the east and west coasts. It supports and serves commerce, business, industry, and the people of our nation.

A little more than a year ago, the Missouri, Illinois, Indiana, and Ohio Departments of Transportation (DOTs) came together to discuss and understand our shared transportation issues and needs, and to develop a multistate vision for the I-70 Corridor and our states. Our shared goal is to reduce congestion and improve safety on the Corridor and, thereby, improve commerce and expand economic growth to our region. Our vision is to accomplish this by developing a dedicated truck-only lane (TOL) Corridor along the approximate 800 miles of I-70 that crosses our four states. The new I-70 Corridor will be a true "Corridor of the Future."

- A dedicated TOLs corridor of this length can be designed to accommodate long-haul trucks with larger, heavier loads, potentially traveling at higher speeds than current standards permit, without the need to deal with conflicting state truck size and weight standards.
- Such a Corridor could attract long-haul truck traffic from congested parallel Corridors such as I-80 and I-40.
- Its location, south of I-80 and out of the "lake-effect snow belt," could also increase its attractiveness as an alternative east-west corridor.
- A unified Corridor of this length, designed in concert with truck staging areas and rail intermodal linkages such facilities under development in Kansas City, Missouri, and the Rickenbacker Intermodal facility in Columbus, Ohio, will facilitate freight transfers by enabling larger freight loads to be transferred for long distances, more efficiently.
- Such a Corridor could provide an intermodal option for time-sensitive long distance east-west rail freight to avoid rail bottlenecks in Chicago.
- A separated truck and passenger Corridor will provide safer and more efficient movement of goods and reduce truck/passenger car crashes.

- It will make existing I-70 a more attractive route for passenger vehicles, and will reduce congestion regionally by attracting passenger vehicles from congested parallel routes.
- The segregation of trucks and passenger vehicles, and the application of new freight accommodations, presents unique financing options for this Corridor.
- It enables unique private sector investment incentives.
- By allowing for the segregation of trucks for such a long distance, the Corridor can continue to serve for many years to come as a testing ground for new evolving trucking technologies, electronic traffic management, and freight movement that have not yet been conceived.
- The new I-70 Corridor will be a true "Corridor of the Future."

The timing is perfect to begin the development of TOLs on the I-70 Corridor. It is one of the first segments of the interstate to be built. Many segments are being evaluated for major rehabilitation. It is congested in urban areas, but no so overdeveloped as to preclude cost-effective improvements. The U.S. freight industries are in need of a means to further improve efficiencies in order to remain competitive in the global marketplace. Waiting would cause this grand opportunity to be missed.

The Missouri, Illinois, Indiana and Ohio DOTs will work with the Federal Highway Administration (FHWA) and in continued consultation with the American Transportation Research Institute (ATRI) and partners in the American Trucking Associations (ATA) Federation and Metropolitan Planning Organizations (MPOs) along the Corridor in engaging industrial freight shippers, information technology transportation researchers, and the rail and container shipping industries that provide and receive truck freight. The input of all stakeholders in the freight industry will be considered in the design and development of the I-70 TOLs "Corridor of the Future."

APPLICATION OVERVIEW

This Phase 2 Application for the Corridor of the Future Program (CFP) discusses the national significance of the I-70 Corridor as a critical trade route; presents facts detailing the need to reduce congestion now and in the future along this corridor; and describes and discusses the innovative solution that will improve the flow of goods and enhance the quality of life for U.S. citizens. This Phase 2 Application includes three sections that address the nine issues presented in the September 5, 2006 Federal Register Notice. The sections include:

- **Section 1 - Clear Need:** Addresses Application issue 1 - Physical Description. It includes a corridor description, national state and local corridor profile, and projections.

- **Section 2 - Clear Solution:** Presents a description of the proposed dedicated TOLs including conceptual designs. It discusses why this solution has merit, addressing specifically Application issues 2 - Congestion Reduction; 3 - Mobility Improvements; 4 - Economic Benefit; and 5 - Value to Corridor Users.
- **Section 3 – Clear Path to Success:** Describes innovative and alternative approaches to making the vision a reality. It addresses Application issues 6 - Innovations in Project Delivery and Finance; 7- Exceptional Environmental Stewardship; 8 - Finance Plan and Potential Private Sector Participation; and 9 - Proposed Project Timeline. It also presents planning level cost estimates for Corridor construction.

The application includes four appendices. **Appendix A** presents letters of support from partners in the ATA Federation from the participating states, MPOs, and other stakeholders along the corridor. **Appendix B** provides information on contacts made with neighboring states on the I-70 Corridor. **Appendix C** presents examples of environmental stewardship/ streamlining that may be used during the development of this project. **Appendix D** presents the cost estimate assumptions and calculations.

CORRIDORS OF THE FUTURE
PHASE II APPLICATION

SECTION 1: CLEAR NEED

SECTION 1: CLEAR NEED

No better example of a "Corridor of the Future" could be envisioned than an innovative solution for commercial trucking on Interstate-70 (I-70). This application, supported by the Missouri, Illinois, Indiana, and Ohio Departments of Transportation (DOTs), proposes constructing dedicated truck-only lanes spanning four states, with the potential to be expanded across the nation.

The I-70 dedicated truck-only lanes (TOLs) project can address major issues facing transportation today; namely, congestion, safety, and the enormous growth and time-sensitivity of freight logistics. The proposed TOLs project can provide a corridor of such length and breadth as to change America's national model for interstate transportation.

The vision for this project entails dedicated TOLs where superior reliability, mobility, and safety add value to the trucking industry and freight movements across the country. The vision of this project is a vision of the future, providing the economy of scale required to influence, and potentially shift, freight movements across the Midwest and the United States.

This section of the application provides a physical description of the Corridor, including a map and discussions detailing its connections to existing transportation infrastructure. It also quantifies the current and future congestion, addresses the national impact of the Corridor on freight and traffic congestion, and presents a profile of I-70 in each state. This section defines the need for the project.

As will be described, there is a clear need to reduce congestion and improve the mobility and safety on I-70 with TOLs because:

- **Truck Volumes:** Heavy vehicles make up an average of 21.5 percent in urban areas and 27.5 percent in rural areas of the overall traffic on I-70 in Missouri, Illiniois, Indiana, and Ohio;
- **Congestion and Commerce:** Truck speeds on I-70 are slower than parallel east-west corridors in the Midwest, affecting business and industry;
- **Safety:** Truck-car crashes on I-70 result in loss of life on the Corridor and incident-induced delay; and

- **New Standard for the Interstate of the Future:** The I-70 project can provide a needed long-distance, truck-focused model that can set the standard for other interstate corridors in the future.

1.1. MAP AND PHYSICAL DESCRIPTION

Figure 1-1 illustrates the project area for the dedicated TOLs proposed in this application. **Figure 1-1** also shows 2000 Census population densities and boundaries of the Metropolitan Planning Organizations (MPOs) in the vicinity of the proposed TOLs project. More than 11 million people live within a 25 mile area of the Corridor.

The I-70 Corridor TOLs project extends from the I- 435 beltway on the eastern part of Kansas City, Missouri to the Ohio/West Virginia border near Bridgeport, Ohio/Wheeling, West Virginia. The I-70 project area includes 789 centerline miles. The I-70 Corridor system includes the beltways around St. Louis (I-270 and I-370), Indianapolis (I-465) and Columbus (I-270), which are expected to directly benefit from the improvement of I-70, includes 847 centerline miles of interstate highways. The system encompasses more than 3,600 lane miles of interstate. Data and discussion of the beltways are included because the proposed project may, after feasibility studies are completed, route some of the TOLs along beltways.

Interstate 70 is a gateway of commerce and mobility for a breadth of industries throughout America's heartland. In 2000, more than 11.1 million people and more than 6.8 million jobs were within 25 miles of I-70 in Missouri, Illinois, Indiana and Ohio.

Population in the counties within 25 miles of the Corridor is expected to increase by 13 percent by 2030 to 13.7 million, and employment is expected to rise by 39 percent to 9.5 million. Five percent of forecast 2030 employment is expected to be directly in the transportation, communications and utilities industry group, which is expected to grow in the area surrounding I-70 by 22 percent in the period from 2000 to 2030[1].

The Corridor connects the major metropolitan areas of Kansas City and St. Louis, Missouri; Indianapolis, Indiana; Dayton and Columbus; Ohio as well as smaller metropolitan areas of Columbia; MO, Madison County and Terre Haute Indiana; Springfield, Newark, Steubenville and St. Clarisville, Ohio; and Wheeling, West Virginia. It crosses the Mississippi and Ohio Rivers, is within 50 miles of the greater Pittsburgh, PA urban area, parallels national railroad lines and is within 25 miles of six major international airports and air cargo hubs, including St. Louis, Indianapolis, Dayton, Wright Patterson, Columbus, and Rickenbacker. Because I-70 plays a critical role for both freight and personal transportation, it is crucial that the Corridor perform optimally for a mix of commercial trucking and personal travel purposes.

1 *Woods and Poole 2006 CEEDS*

Figure 1-1: I-70 Dedicated Truck Only Lanes Project Area

Source: Wilbur Smith generated map using U.S. Census Bureau data

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Figure 1-2: Connections to Existing Transportation Infrastructure

Source: Wilbur Smith generated map using National Transportation Atlas Databases (NTAD) 2006 - Bureau of Transportation Statistics

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Figure 1-2 illustrates the Corridor's connections with other existing transportation infrastructure. The significance of these connections is discussed in **Sections 1.3.2, 1.4, 1.5,** and **2.2.2**.

The I-70 Corridor project area connects to nine north-south and two east-west interstate routes.

- North/South Interstate Connections,
  - I-29 and I-35 in the Kansas City, Missouri area,
  - I-55 in the St. Louis, Missouri area,
  - I-57 in south central Illinois,
  - I-65 and I-69 in the Indianapolis, Indiana area
  - I-75 north of Dayton, Ohio area,
  - I-71 in the Columbus, Ohio area,
  - I-77 near Cambridge, Ohio;
- East/West Interstate Connections,
  - I-44 and I-64 in the St. Louis, Missouri area,
  - I-74 in Indianapolis;

Seventeen passenger and air cargo airports are served by the I-70 Corridor project area. These include three major airports in the Kansas City area, four near St. Louis, and four near Columbus.

All seven Class 1 U.S. railroads cross or parallel the I-70 project area. The two major players east of the Mississippi River are CSX Transportation and the Norfolk Southern railway. West of the Mississippi, the BNSF Railway and Union Pacific Railroad cover roughly the same territory. The Kansas City Southern Railway is a smaller system, mainly forming part of the NAFTA Railway corridor from the Midwest into Mexico. The Canadian National Railway and Canadian Pacific Railway have trackage lines in the project area.

The I-70 Corridor also crosses the Missouri, Mississippi and Ohio Rivers. These are some of the most heavily traveled rivers on the inland waterway system. The ports in the Kansas City and St. Louis area contain major truck/waterport intermodal facilities. The eastern end of the Corridor is on the Ohio River and several major ports.

1.2. SYSTEM CONDITION

The condition of the system is one of the many factors that impacts performance. This section presents data and analysis highlighting the issues of congestion and safety facing I-70. The data will demonstrate that this vital Corridor is threatened by:

- Recurring urban bottlenecks which undermine the efficiency of freight and personal transportation in major cities along the Corridor; and
- Crash-induced delays which undermine the reliable delivery of goods utilizing the Corridor.

These are problems of national significance. The I-70 TOLs project will certainly reduce congestion and incident-induced delays by separating trucks and passenger vehicles on I-70. However, the efficiencies provided to both truck and automobile traffic on I-70 with also benefits other congested parallel routes by attracting long distance traffic from these corridors. This Corridor is also made more attractive by being far enough south to avoid the major "Lake Effect" snow events that effect major segments of the I-80 corridor. It can provide the potential for congestion relief in cities throughout the Midwest.

Figure 1-3: Truck Flows on I-70 and Other Interstates, 2035

Source: FHWA Freight Analysis Framework (FAF²)

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Figure 1-3 illustrates the strategic relationship and significance of I-70 to the parallel Corridors of I-80 (to the north) and I-40 (to the south) as truck routes for the mobility of trans-national traffic through the United States. A TOLs solution to maximize the mobility of I-70 has the potential to improve the utilization of I-70 as a preferred route for truck flows throughout the Midwest. It could potentially attract traffic from I-40 and I-80, thereby reducing congestion on these parallel routes. **Figure 1-3** also demonstrates that if no improvements are made to I-70 in the Indianapolis Metropolitan area, this area will be one of our nation's worst bottlenecks, affecting both North/South and East/West traffic.

1.2.1. Capacity Deficiencies

I-70 faces significant congestion due to capacity deficiencies. A successful deployment of truck-only facilities on I-70 can provide both a solution to these issues and a demonstration project for other interstates with similar issues.

I-70 faces significant congestion due to capacity deficiencies.

Table 1-1 describes the Corridor in terms of its conditions and performance with respect to mobility and capacity based on 2004 HPMS (Highway Performance Monitoring System) data submittals from the states of Missouri, Illinois, Indiana, and Ohio.

Table 1-1: Capacity of the I-70 Corridor

	I-70 Project Area		All US Interstates	
Measure	Urban	Rural	Urban	Rural
Centerline Miles	297 (35%)	550 (65%)	15,373 (32%)	31,474 (68%)
Lane Miles	1416 (38%)	2242 (62%)	84,023 (40%)	128,012 (60%)
MVMT	21,936 (55%)	17,763 (45%)	459,768 (63%)	267,395 (37%)

Source: WSA Generated Table from HPMS and State Level Data

Table 1-1 shows that, while the I-70 Corridor project area is slightly more urban compared to all interstates, it has a lower concentration of MVMT (million vehicle miles traveled) in urban areas. Eighteen percent of I-70's urban VMT occurs in congested conditions, as identified by general daily capacity deficiencies. From a capacity standpoint, I-70 should offer greater mobility than many interstates in both urban and rural areas. However, an assessment of truck speeds as shown by **Figures 1-4** and **1-5** and utilization of the Corridor (as shown on **Figures 1-7** and **1-8**) shows that truck speeds on I-70 lag behind other corridors in the Midwest.

Speeds on I-70 lag behind other Midwest corridors.

Figures 1-4 and **1-5** illustrate the aggregated on-board truck position data produced during truck movement and obtained through the Freight Performance Measures

(FPM) initiative, an ongoing FHWA sponsored study led by the American Transportation Research Institute (ATRI), June 2006. The figures offer a snapshot using 30 days of FPM data concerning conditions on I-70, compared with six other interstates making national connections in the Midwest.

Figure 1-4: 30-Day Average Travel Speeds for 7 Corridors: Northbound and Eastbound

Source: American Transportation Research Institute (ATRI), June, 2006

Figure 1-5: 30-Day Average Travel Speeds for 7 Corridors: Southbound and Westbound

Source: ATRI, June 2006

These figures show that the average travel speeds for trucks on I-70 are lower than for other east-west corridors (such as I-80 and I-40). It is notable that the travel rates shown in **Figures 1-4** and **1-5** show truck speeds in RURAL areas between 50 and 55 mph throughout Ohio, Indiana, and Illinois. This is significantly less than the speeds greater than 60 mph observed on most of the other interstates in the Midwest outside of urban areas.

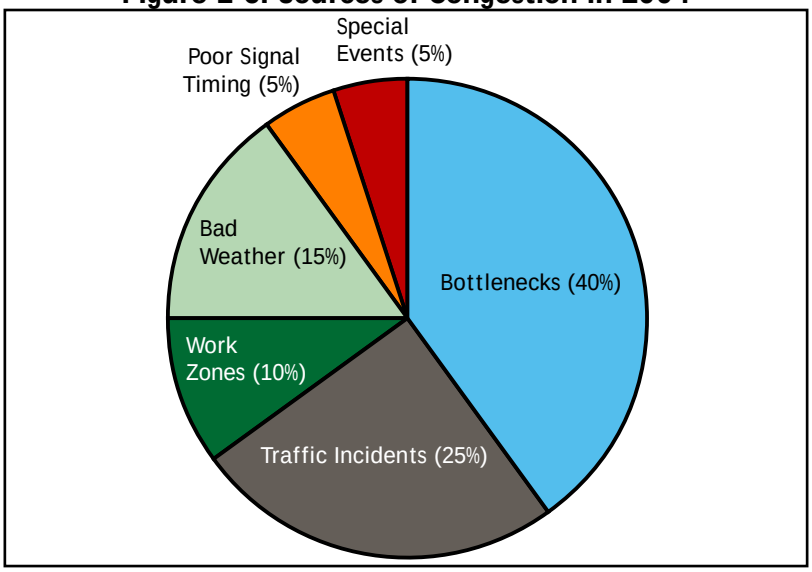
It should be noted, in Ohio speed limits for trucks are set at 55 mph. Two reasons for this are to reduce the number of truck-car crashes and to reduce the severity of collisions, if they do occur between cars and heavy trucks. This safety benefit comes at the expense of longer travel times and less mobility for trucks on I-70.

Improving mobility on I-70 for trucks in the future requires a strategy which separates trucks from passenger cars and supports higher truck speeds, while improving safety and guarding against the possibility of crash-induced delay.

1.2.2. Causes for Congestion

Nationally, based on FHWA data, the two leading causes for congestion are bottlenecks on capacity deficient roadways (accounting for 40 percent of congestion in 2004) and crash incidents (accounting for 25 percent of congestion in 2004). Both of which would be dramatically reduced on I-70 with the development of TOLs. **Figure 1-6** illustrates the overall sources of congestion in the United States in 2004.

Figure 1-6: Sources of Congestion in 2004



Source: FHWA

Because capacity alone does not explain the lower truck travel speeds on I-70, the need to facilitate higher-speed truck traffic, while minimizing the risk of crash-induced delay, emerges as a potential focus area for reducing congestion on I-70 and enhancing its overall utilization as part of the interstate network.

Truck involved crashes on the I-70 Corridor through the four states of this application may have accounted for more than 2.3 million vehicle hours of incident-induced delay in 2004.

In 2004, the I-70 project area had more than 10,000 crashes. Truck involved crashes accounted for 18 percent of 2004 crashes on the I-70 Corridor, but 36 percent of fatalities. The majority of these fatalities involved passenger car drivers and occupants.

In a 2004 study, "Temporary Losses of Capacity and Impacts on Performance," the Oak Ridge National Laboratory estimated that, on average, a fatal interstate crash results in 962 vehicle hours of delay. A non-fatal crash results in 1,230 vehicle hours of delay. By these averages, truck involved crashes on the I-70 Corridor through the four states of this application may have accounted for more than 2.3 million vehicle hours of incident-induced congestion in 2004.

The impact of incident-induced crashes is also significantly more costly, both for the trucking industry and for shippers, than recurring bottlenecks due only to capacity deficiencies. This is because the unpredictable nature of crash incidents cannot be planned for in business or supply chain operations. An improvement to I-70 which will reduce incident-induced delay for truck-related crashes, and safeguard truck traffic from the delay of non-truck crashes, will greatly enhance the reliability and performance of this system for interstate commerce. Such an improvement will enhance I-70's appeal as a preferred route for trucking-dependent commerce.

1.2.3. Utilization of I-70

Lower travel speeds on I-70 have an impact on its utilization and its "attractiveness" to the trucking industry as a cross-country route. In addition to travel speeds, the previously referenced FPM study, led by ATRI in June 2006, also examined the utilization of U.S. interstates for truck traffic. In this analysis, each one mile segment was given a utilization score based on the number of trucks that passed over that segment within a 30 day period. A ratio of 10-1 was then created, with 1 representing the lowest utilization level and 10 representing the highest. **Figures 1-7** and **1-8** observe the directional utilization of I-70 through the Midwest, relative to other corridors.

Lower travel speeds on I-70 have an impact on its utilization and its "attractiveness" to the trucking industry as a cross-country route.

Figure 1-7: Eastbound and Northbound Utilization

Source: ATRI, June 2006

Figure 1-8: Westbound and Southbound Utilization

Source: ATRI, June 2006

These figures show that, among the three major east-west corridors in the Midwest (I-80, I-40 and I-70), I-70 is the least utilized corridor for trucking. A truck-focused solution to recurring- and incident-induced delay on the I-70 Corridor can to attract the flow of east-west interstate traffic through the Midwest, improving the efficiency of trucking on parallel routes and improving efficiencies of trucking dependent industries nationally. When combined with other freight-related efficiencies enabled by TOLs (such as higher univorm load limits and larger truck sizes), the Corridor becomes a still greater route of choice for long-haul, time-sensitive freight movements.

1.2.4. Urban Area Congestion

The impact of recurring congestion is most keenly felt in the Corridor's largest metropolitan areas of Kansas City, St. Louis, Indianapolis, Dayton, and Columbus. According to a study by the Texas Transportation Institute, based on 2003 data, congestion was responsible for nearly 98 million lost hours of time, more than 63 million gallons of excess fuel consumption, and more than $1.6 billion in overall congestion costs to system

users in major metropolitan areas of the I-70 Corridor. **Table 1-2** shows the impacts of congestion on the Corridor's metropolitan areas.

Table 1-2: I-70 Congestion through Major Cities (2003)

Metropolitan Area	Travel Delay (1,000 Hours)	Excess Fuel Consumed (1,000 Gallons)	Overall Congestion Cost in Million $
Kansas City, KS/MO	13,874	9,095	$ 235
St. Louis, MO/IL	39,936	26,362	$ 675
Indianapolis, IN	21,358	14,032	$ 362
Dayton, OH	4,438	2,836	$ 75
Columbus, OH	18,550	11,507	$ 314

Source: TTI Urban Mobility Report, 2004 & 2005

Figure 1-9: Urban Areas where 2030 Congestion on the I-70 System is Expected to be Most Severe

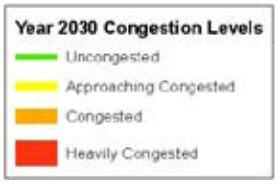
Kansas City

Saint Louis

Indianapolis

Dayton

Columbus



	Urban	Rural
2004 MVMT	55,379	18,527
% of VMT Deficient in 2004	21.55%	0.00%
2030 MVMT	98,173	35,651
% of VMT Deficient in 2030	73.05%	43.90%
Growth	77.27%	92.43%

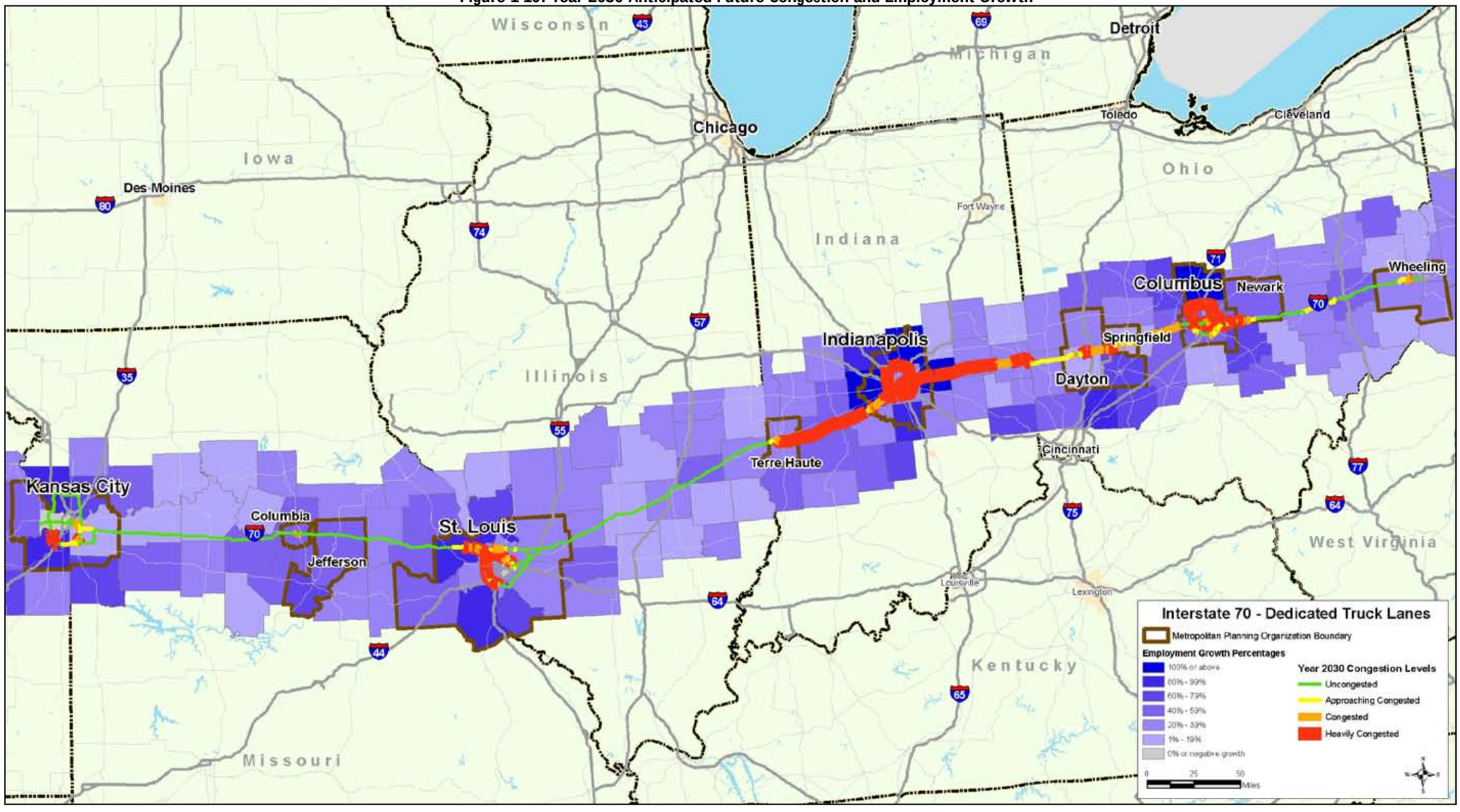
Source: Wilbur Smith Associates, 2007

Figure 1-9 illustrates where 2030 urban area congestion on the I-70 system is expected to be most severe. It shows that VMT in the urban areas of the I-70 Corridor is expected to grow by more than 77 percent from 2004 to 2030, with the percentage traveled under congested conditions rising from around 21 percent in 2004 to more than 73 percent in 2030. This congestion is expected to have a significant impact on I-70's mobility and accessibility for commerce and intermodal connections, as both I-70 and its supporting belt roads reach volumes exceeding their daily capacities in Indianapolis and Columbus in 2030. The accessibility of both Dayton and St. Louis will also be significantly impeded by interstate congestion in 2030.

The principal I-70 urban area's percentage travel under congested conditions rises to more than 73 percent in 2030.

Figure 1-10 illustrates where future capacity deficiencies threaten the accessibility of the I-70 Corridor to growing concentrations of employment and commerce throughout the Corridor. The figure shows congestion expected in 2030 relative to growth in the density of employment along the Corridor.

Figure 1-10: Year 2030 Anticipated Future Congestion and Employment Growth



Source: Wilbur Smith Generated Map Utilizing 2004 HPMS and Woods and Poole 2006 CEEDS Data

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As shown in **Table 1-3** and in **Figure 1-10**, significant growth in the density of employment surrounding Indianapolis will combine with overall rising traffic volumes, causing capacity deficiencies on the I-70 Corridor throughout the state of Indiana.

Projected increases in employment density surrounding Columbus and Dayton is also expected to cause interstate capacity deficiencies in Columbus, with I-70 approaching its capacity throughout western Ohio by the year 2030. The problem of future capacity deficiencies is expected to be more localized in Illinois and Missouri; however, if the Corridor is not improved, incident-induced delay is also likely to be responsible for increasingly congested conditions as employment density rises in the areas surrounding St. Louis, Columbia, and Kansas City.

Figure 1-11 illustrates the concentration of crash events in 2004 relative to areas of expected employment growth along the Corridor. The figure shows that today's high-crash areas of I-70, if not addressed in the future, will impede mobility and accessibility to growing areas of commerce and economic activity.

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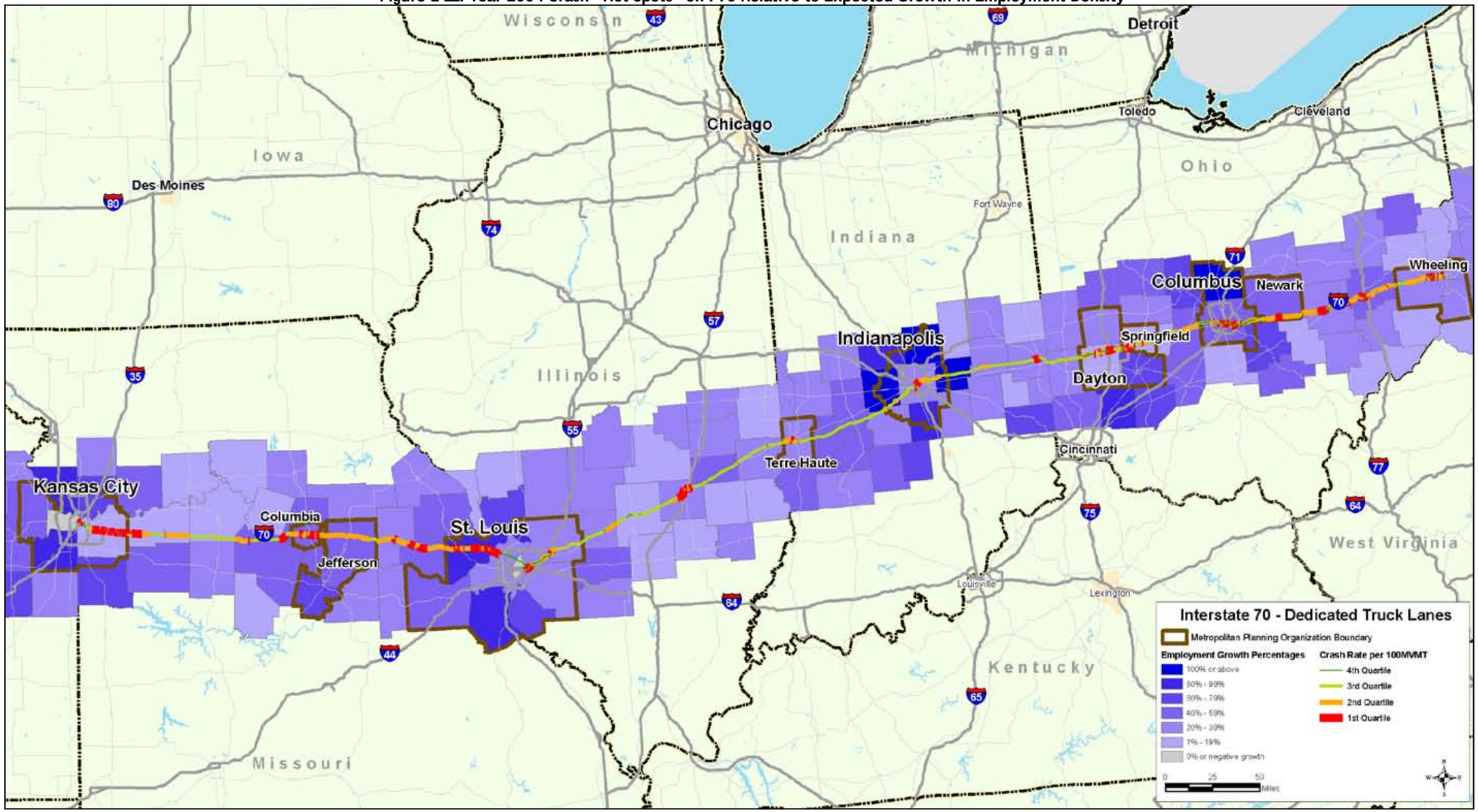
Figure 1-11: Year 2004 Crash "Hot-Spots" on I-70 Relative to Expected Growth in Employment Density



Source: Wilbur Smith Generated Map Utilizing 2004 HPMS and State Level Crash Data

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Figure 1-11 shows that, in addition to the urbanized areas of the Corridor, Ohio and Missouri have the highest concentration of crashes per MVMT of the states in the I-70 Corridor. This is important because it shows that even in non-congested areas, such as rural sections of Missouri, there are factors that may cause congestion and delay, further compromising the reliability of travel on I-70 in 2030 and beyond. The figure also shows that high concentrations of crash incidents make the Corridor subject to crash-induced delay in high-growth areas such as central Ohio, Indianapolis, and St. Louis.

In 2030, both incident-induced delay and emerging capacity deficiencies will threaten the performance of I-70. Taken together, **Figures 1-10** and **1-11** show that these emerging sources of congestion will be widespread throughout the four-state project area. This will require a holistic and innovative solution to support commerce and economic performance for the I-70 project area.

1.3. NEED TO SUPPORT FREIGHT-INTENSIVE COMMERCE

I-70 needs a truck-oriented solution to support key industries.

To support commerce, the conditions and performance of I-70 must be improved with respect to the mobility and safety of truck traffic. The above analysis has demonstrated how existing crashes and projected bottlenecks on I-70 threaten the accessibility of growing concentrations of employment and commerce. This section further examines the utilization of I-70 as a corridor of commerce with a high concentration of trucking dependent industries and vital linkages to national freight and commerce networks.

Because of its high concentration of manufacturing, retail and wholesale trade and transportation and communications activity, I-70 is more dependent on trucking than the interstate highway system as a whole. This is due to the composition of industries located in proximity to the Corridor. The conditions and performance challenges facing the Corridor are vitally important to national commerce for these and other major industries in the United States. **Table 1-3** gives a general overview of the population density, employment density, and expected increases in population and employment on I-70 from 2000 to 2030.

Table 1-3: Increasing Population and Employment Density (per square mile) Within 25 Miles of the Proposed I-70 Corridor Project Area

I-70 Population and Employment Forecast 2000 - 2030			
Economic Factor	2000	2030	Expected Increase
Population	11,114,084	13,679,574	23%
Population Density/sq.mi	27,143	31,684	17%
Employment	6,846,385	9,502,391	39%
Employment Density/sq.mi	17,829	23,084	29%

Source: Woods and Poole, 2006 CEEDS

The increases in employment density as shown in **Table 1-3** and illustrated in **Figures 1-10** and **1-11** are highly sensitive to the existing and emerging commercial trucking safety and capacity issues shown. This is because the nature of expected 2030 employment on the Corridor is forecast to be especially dependent on truck traffic.

Table 1-4 compares the expected year 2030 industrial composition of the counties surrounding I-70 (within 25 miles) to industry employment forecasts for America as a whole. The right most column of **Table 1-4** gives the location quotient for each industry group. The location quotient measures the relative concentration of expected 2030 employment in each industry in the I-70 Corridor area in comparison to the nation as a whole. When this quotient is greater than one, the industry is said to be part of the economic base of the Corridor.

Manufacturing, retail and wholesale trade are found to comprise the economic base of the I-70 Corridor project area. Manufacturing is expected to account for nine percent of jobs in the area surrounding I-70 in 2030 compared to only seven percent of jobs nationally. Retail and wholesale trade are also concentrated in the area surrounding the Corridor, with retail employment accounting for 17 percent of expected 2030 jobs in the I-70 area, and only 15 percent nationally. Both of these industries are highly dependent on both commercial trucking and in-house trucking and transportation operations conducted by manufacturing and retail firms.

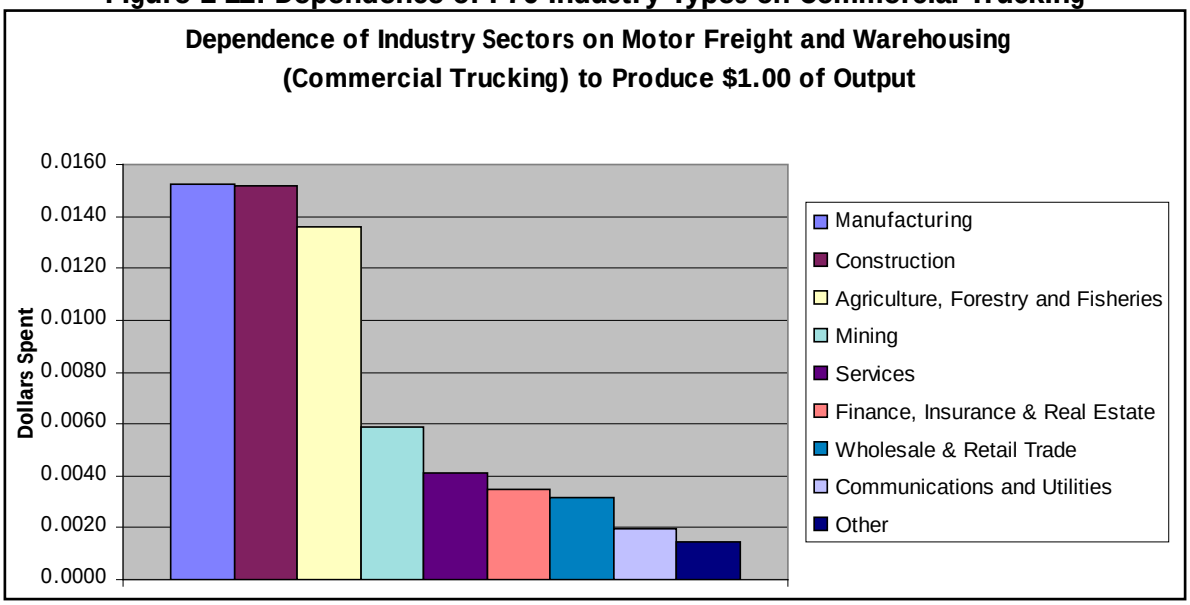
Table 1-4: Expected Trends in I-70 Industry Composition in 2030

I-70 Area Forecast Industry Composition Relative to US Employment 2030			
Employment By Industry	Expected Percentage of I-70 Area Employment 2030	Expected Percentage of National Employment 2030	I-70 Industry Share/National Industry Share (Location Quotient)
Services	36%	39%	0.95
Retail Trade	17%	15%	1.10
Government	13%	13%	0.98
Manufacturing	9%	7%	1.15
Finance/Insurance/Real Estate	8%	8%	0.96
Construction	6%	6%	1.00
Transportation/Communication and Utilities	5%	5%	1.03
Wholesale Trade	4%	4%	1.09
Farming	1%	1%	0.93
Agricultural Services	1%	1%	0.78
Mining	0%	0%	0.58
All Industries	**100%**	**100%**	

Source: WSA Generated Table Using Woods and Poole 2006 CEEDS Data

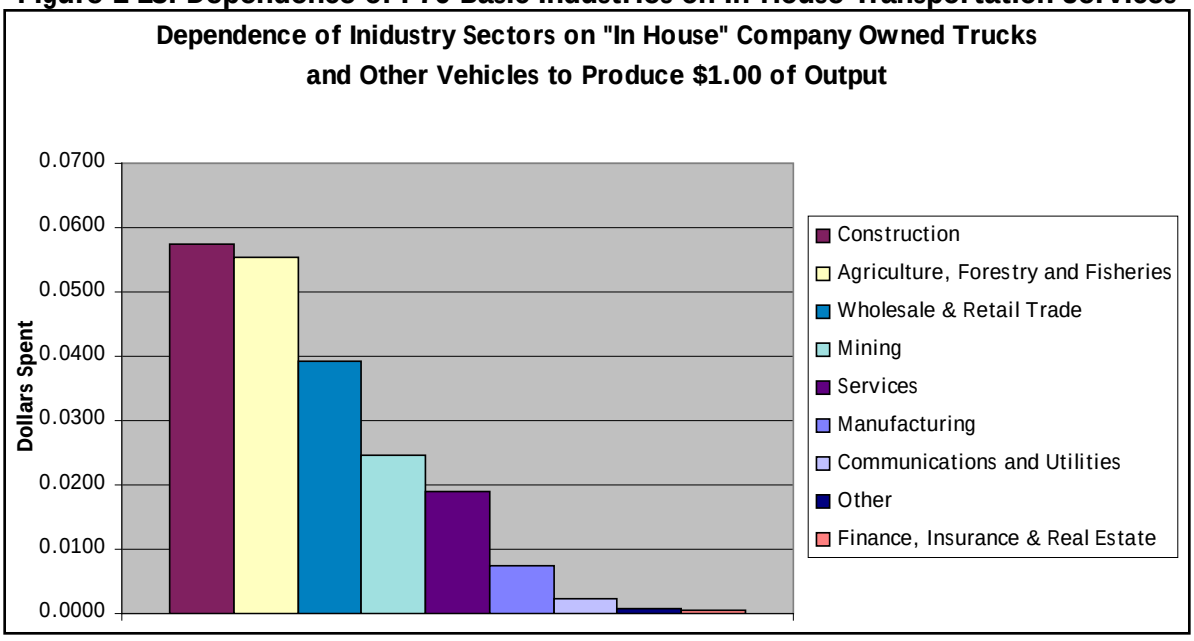
In the year 2000, the U.S. Bureau of Transportation Statistics (BTS) published Transportation Satellite Accounts describing the reliance of different industries on transportation modes/sectors in terms of the value of transportation services each industry must consume to produce one dollar of output. The Transportation Satellite Accounts provides a general basis for comparing the degree to which each industry may be affected by changes in transportation services, costs, and performance.

Figure 1-12: Dependence of I-70 Industry Types on Commercial Trucking



Source: WSA Generated Table Using Woods and Poole 2006 CEEDS Data

Figure 1-13: Dependence of I-70 Basic Industries on In-House Transportation Services



Source: WSA Generated Table Using Woods and Poole 2006 CEEDS Data

Figure 1-12 compares the dependence of different industry groups on commercial trucking and warehousing, and **Figure 1-13** compares the dependency of in-house transportation services (which consist of company owned trucks or other vehicles) to produce one dollar of output.

The vertical axes on **Figures 1-12** and **1-13** illustrate dollars each industry must spend in transportation to produce one dollar of output. The figures show the primary industries in the area surrounding I-70 (manufacturing and retail/wholesale trade) have higher than average dependency on both trucking and in-house transportation services which may utilize the Corridor.

1.3.1. Dependence of Manufacturing on Trucking on I-70

Figure 1-12 illustrates that the manufacturing industry ties with construction as the industry group most dependent on commercial trucking to produce output. Increasingly, manufacturers in collaborative supply chain technologies seek to avoid inventory holding costs by relying on smaller, agile, time-sensitive deliveries. Strategies such as just-in-time (JIT) production require manufacturers to tailor operational strategies, schedules, and quantities to rapidly changing market demand. The increasing need for flexibility in scheduling and distribution patterns among manufacturing firms makes transportation efficiency and the avoidance of travel incident-induced delays especially important.

Given the concentration of manufacturing activity on I-70 in 2030, it is critical that a solution to the performance issues facing I-70 maximize the efficiency and reliability

of the Corridor for the commercial trucking of time-sensitive commodities supporting manufacturing.

1.3.2. Dependence of Wholesale and Retail Trade on Trucking

The location quotients in **Table 1-4** show retail and wholesale trade industries are expected to be the second and third most concentrated industries in the proposed project area in 2030. **Figure 1-12** shows that the retail industry is more dependent on in-house trucking and transportation than most other industries. This is important because the in-house transportation investment of retail firms is increasingly associated with retail firms that manage supply chains using point of sale and other data. Electronic data-driven supply chain and inventory management strategies such as Vendor Managed Inventory (VMI), Continuous Stock Replenishment (CSR), and Efficient Customer Response (ECR) in the retail industry result in reliance on smaller and more time-sensitive deliveries, with fewer inventories kept in warehouses. Recurring congestion can interfere with such deliveries, resulting in stock-outs which cost retailers money and deny consumers and businesses access to goods at the needed time. As with manufacturing, incident-induced delay resulting from crashes are unpredictable and, therefore, more costly to vendors and more likely to interfere with retail trade dependent on I-70.

Intermodal Connections

I-70 presents significant opportunities to enhance the delivery of goods for manufacturing, retail, and wholesale trade throughout the Midwest, the nation, and internationally. Opportunities, including the examples that follow, for intermodal connectivity are discussed in **Section 2.2.2** and **1.5**.

Example: Kansas City, Missouri is seeking to become one of the first-ever foreign customs inspection offices on U.S. soil with a new Mexican Customs Clearance Facility. With new rail intermodal centers at the crossroads of I-70, I-29 and I-35, Kansas City intends to solidify its role as an integral trade center of the North American Continent Trade Corridor. I-70 is positioned to become one of the integral spokes for both national and NAFTA trade connections in the United States with rail and trucking linkages to Canada and Mexico.

Example: In the Columbus, Ohio area, the Rickenbacker International Airport is currently developing a Global Logistics Park. The performance of I-70 is critical to realize the rewards of both national and international trade, as well as regional and local retail and wholesale activity.

The concentration of trade activity dependent on I-70 makes finding a solution to the performance issues facing I-70 critical to the region, the I-70 Corridor states, and the nation as a whole.

1.4. NATIONAL SIGNIFICANCE

The above analysis demonstrates both the emerging need to manage I-70's freight performance and the ways in which the economic base of the area surrounding I-70 makes truck traffic especially important to the vitality of major industry groups using the Corridor. The importance of I-70's performance as a national truck route extends beyond the 25 mile reach of counties surrounding the Corridor. As presented in **Figure 1-2,** and described in **Section 1.1**, the I-70 Corridor connects with 11 interstates. The national Freight Analysis Framework (FAF^2) has found that today, and in the future, these interstates are among the most heavily utilized trucking routes in the United States. **Figure 1-14** illustrates that I-70 and the other interstates in the northern Midwest will be some of the most heavily traveled freight corridors in the nation. This application, however, is not just about the relief of existing and projected congestion. It is about providing an opportunity for freight efficiencies to the trucking industry of a type and magnitude that exist nowhere else in the nation. With this comes the opportunity to relieve congestion on other corridors and to add a new dimension to freight logistics and efficiencies.

I-70 needs a truck oriented solution to provide safe mobility at the national level.

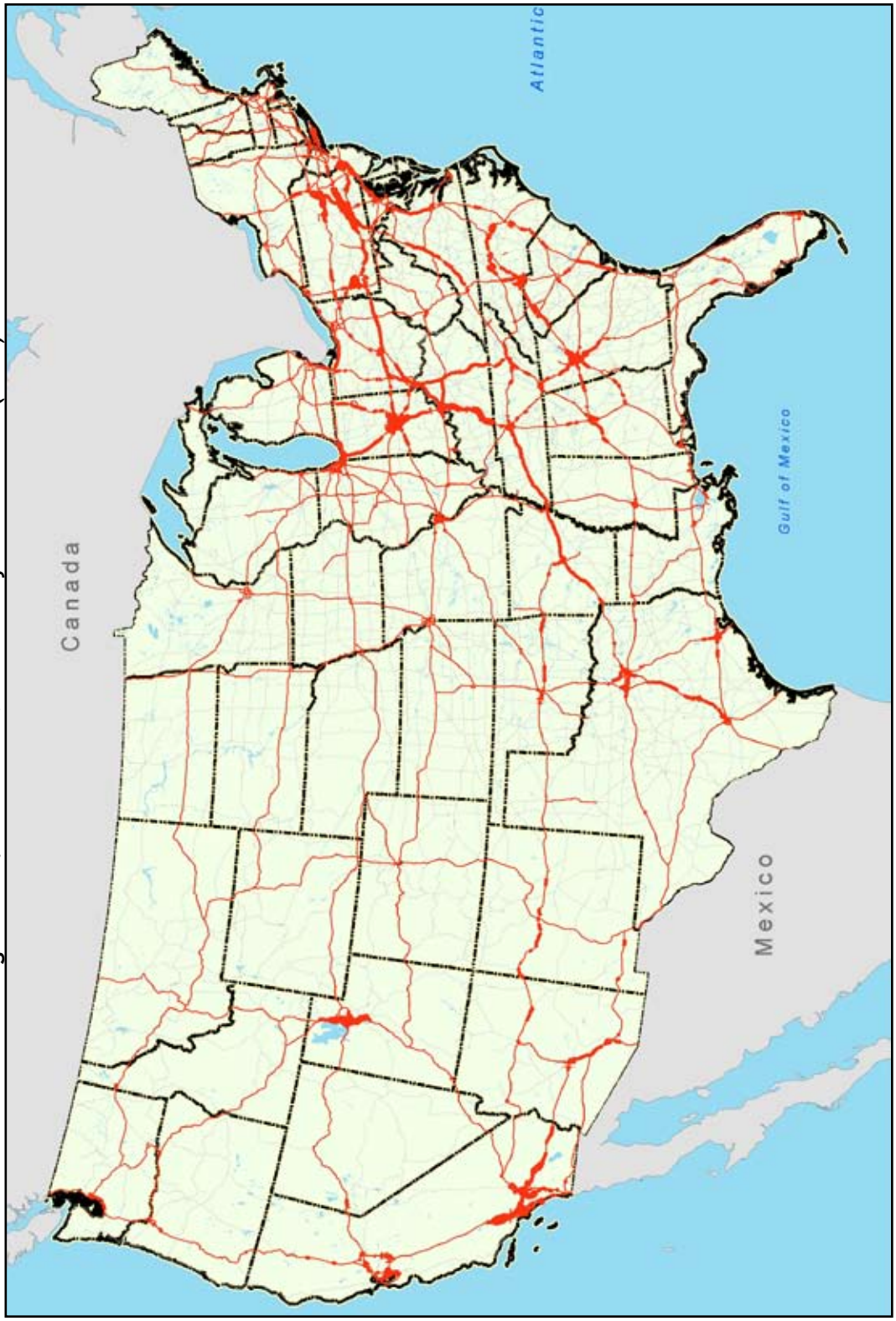
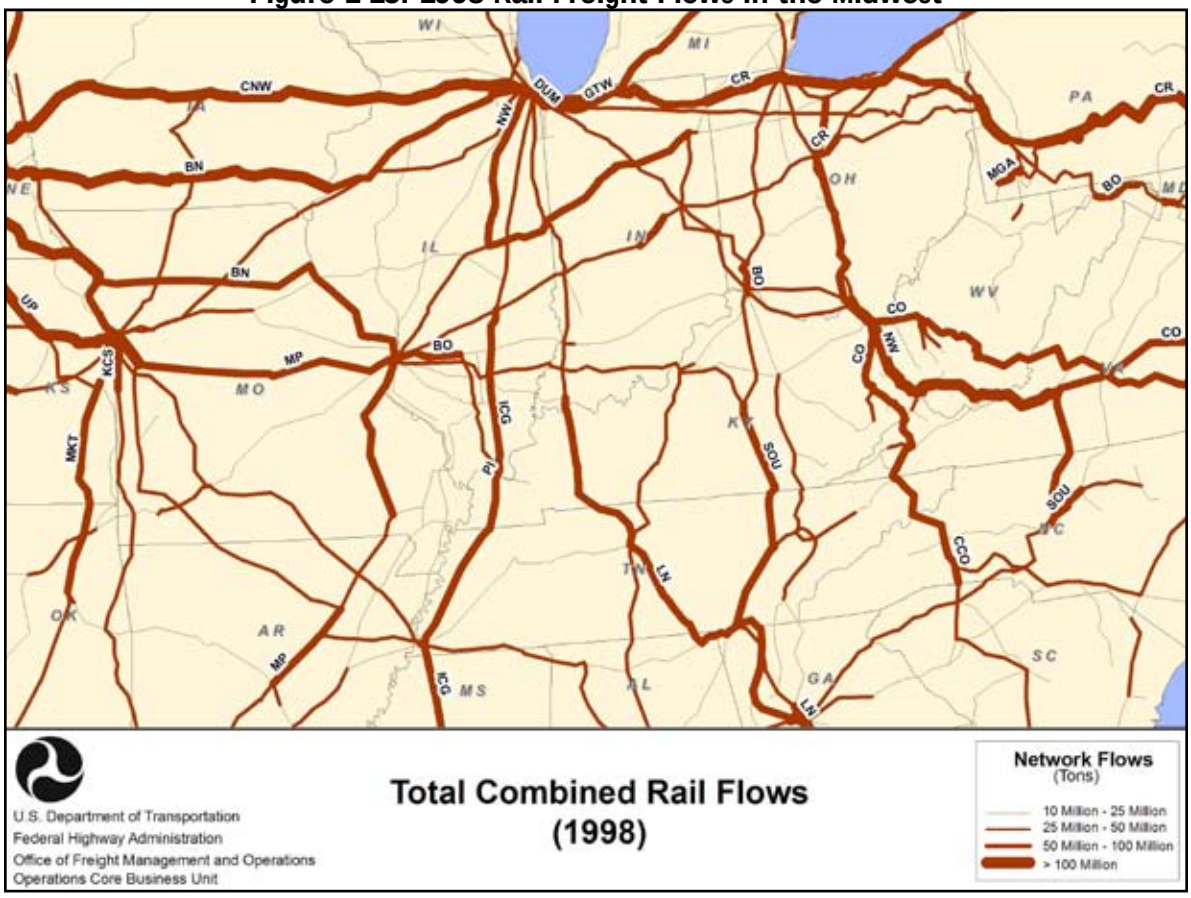


Figure 1-14: Estimated National Daily Truck Traffic (2035)

Source: FHWA Freight Analysis Framework (FAF²)

Figure 1-15: 1998 Rail Freight Flows in the Midwest



In terms of the U.S. rail system, the I-70 Corridor project area is where east meets west. **Figure 1-15** illustrates national rail flows in the upper Midwest. As discussed in **Section 1.1**, I-70 parallels or crosses all seven U.S. Class 1 railroads. This is significant since U.S. railroads are primarily private corporations whose service area and track infrastructure is typically either in the eastern or western U.S. The I-70 Corridor project area bridges the service areas of both the east and west based rail companies.

Currently, commodities traveling across the country by rail go into the Chicago area and switch from the western/eastern carriers and rail lines. If the I-70 TOLs Corridor project is completed, it would provide an option for long distance freight to trans-load in the intermodal facilities in the Kansas City or Columbus areas, and avoid the congestion in the Chicago and I-80/90 corridor.

1.5. STATE CONDITION AND SIGNIFICANCE

In each of the four states participating in this application, I-70 has unique congestion issues and makes critical national connections to support regional, national and international commerce, commodity flows, and passenger travel. As shown in **Table 1-5**,

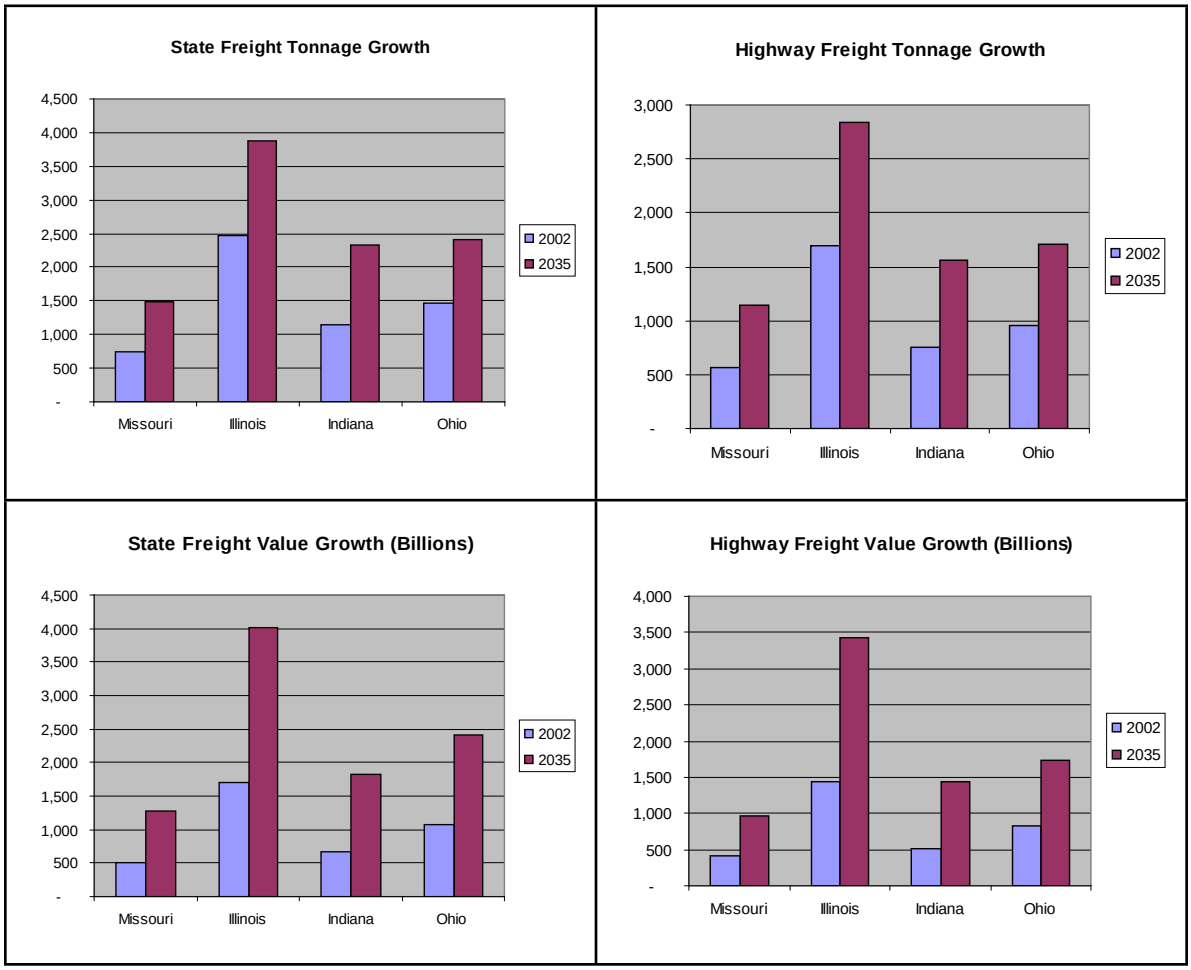
highways in these four states are now, and are projected in 2035, to carry the majority of commodities by tonnage and value to, from and within each state.

Table 1-5: Freight Shipment To, From and Within I-70 Corridor States

TON (M)	State Total		By Highway		% of Total		% Growth
	2002	2035	2002	2035	2002	2035	Highway
MO	751	1,484	564	1,144	75%	77%	103%
IL	2,469	3,887	1,690	2,844	68%	73%	68%
IN	1,153	2,327	752	1,558	65%	67%	107%
OH	1,458	2,415	960	1,710	66%	71%	78%
$$ (B)	State Total		By Highway		% of Total		% Growth
	2002	2035	2002	2035	2002	2035	Highway
MO	505	1,281	407	960	81%	75%	136%
IL	1,695	4,017	1,439	3,420	85%	85%	138%
IN	666	1,830	520	1,446	78%	79%	178%
OH	1,065	2,413	822	1,728	77%	72%	110%

Source: FHWA Freight Analysis Framework (FAF^2)

Figure 1-16: Growth in Tonnage and Value of Freight Shipments To, From and Within the I-70 Corridor States



Source: FHWA Freight Analysis Framework (FAF²)

Figure 1-16 displays the growth in tonnage and in value of freight shipments to, from, and within the I-70 Corridor states, as presented in **Table 1-5**.

1.5.1. I-70 in Missouri

Highways in these four states are now, and are projected in 2020, to carry the majority of commodities by tonnage and value to, from and within each state

I-70 travels approximately 250 miles, crossing central Missouri and connecting its two largest cities, Kansas City and St. Louis.

Highway: Traffic volumes exceed 100,000 vehicles per day (VPD) in certain locations in Kansas City and St. Louis and reach 70,000 VPD in Columbia. Rural portions have

volumes of 25,000 to 30,000 VPD. Several segments of I-70 experience traffic volumes of 130,000 to 160,000 ADT (average daily traffic).

Trucks generally comprise 20 to 30 percent of the volume. In some of the rural areas, trucks comprise up to 40 percent of the traffic volume. Projections are that truck traffic will double on I-70 by 2030, with approximately 3.5 percent growth per year. Passenger cars and pick-up truck volumes are anticipated to grow by about one percent per year. Projections indicate that many segments of I-70 in Missouri can be expected to operate at unacceptable levels of service by the year 2030. This will result in unstable traffic flows, stop-and-go conditions and traffic volumes greater than the roadway's capacity.

Air Travel Connections to the Corridor: Two major Missouri airports are located along I-70. Kansas City International Airport is the nation's 33rd largest air cargo airport. In 2005, approximately 925 million pounds of air cargo landed and five million passengers were enplaned there. The St. Louis Lambert Airport is the nation's 48th largest air cargo airport. In 2005, approximately 595 million pounds of air cargo and 6.85 million passengers were enplaned there.

Truck and Freight Flows: As shown in **Table 1-5**, 75 percent, by weight, and 81 percent, by value, of freight traveling in, out, or through Missouri is via highway. Growth in highway tonnage is expected to continue as the major mode of transportation. Highway tonnage growth is projected to grow 103 percent in volume to 77 percent, and 136 percent in value to 75 percent in 2035. **Figure 1-17** shows this growth.

Trading Partners: Illinois, Kansas, and Ohio are among Missouri's top four trading partners. In 2002, trade with Illinois represented 24 percent of the tons and 19 percent of the value; trade with Kansas represented 14 percent of the tons and 10 percent of the value; and trade with Ohio represented five percent of the value of Missouri's total trade.

Intermodal Connectivity: St. Louis is located at the crossroads of I-55, I-44, I-64, and I-70. Kansas City is located at the crossroads of two of the nation's major interstates: I-29, I-35, and I-70. Both cities are located along the nation's largest navigable inland waterway system: the Missouri/Mississippi River system.

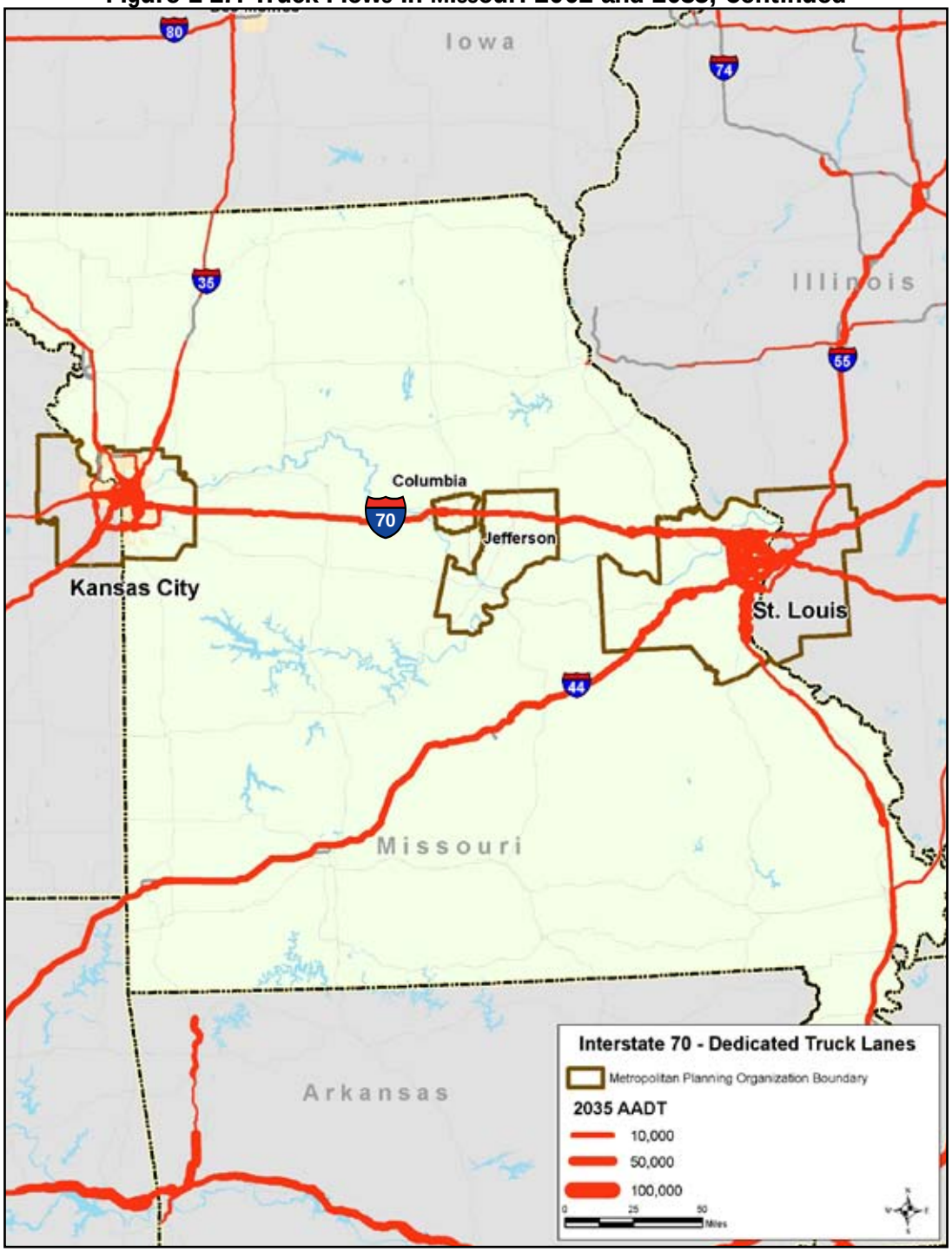
Kansas City has the second-largest rail center in the nation. The world's largest underground business complex, Sub Tropolis, is located in Kansas City, with nearly five million square feet for the storage and distribution of goods. Kansas City claims the largest Foreign Trade Zone in the United States with more than 10,000 acres serving companies such as Bayer, Kawasaki, Pfizer, and Sony. The former Richards-Gebaur Air Force Base has been converted to an international trade facility called the International Freight Gateway.

The North American Mid-Continent Trade Corridor permits Kansas City and it partners to market themselves jointly to businesses in Mexico, Canada, and other locations seeking shorter distribution times and costs. Like the Texas ports, some of the major Pacific ports such as Long Beach, Oakland, Tacoma, and Seattle are already beginning to suffer

from congestion that will likely worsen as trade volumes and terrorism-related security measures increase.

Figure 1-17: Truck Flows in Missouri 2002 and 2035

Figure 1-17: Truck Flows in Missouri 2002 and 2035, Continued



Source: FHWA (FAF²)

The efficient performance of I-70 for truck traffic in Missouri is of critical national significance because:

- The Corridor connects major global centers of commerce in St. Louis and Kansas City;
- In each of these cities, the Corridor makes national and international connections to other interstates and other modes; and
- The Corridor provides an essential link for NAFTA trade through the center of America.

The sustained conditions and performance of I-70 in Missouri depend heavily on the suitability of the Corridor to perform these important trade functions. Seventy-eight (78) percent of surveyed Missourians identified truck traffic as a major problem. Pursuing an expanded I-70 with dedicated truck traffic lanes would help alleviate this concern. For all of these reasons, a new and innovative strategy for I-70, which addresses the efficiency, mobility and safety of truck traffic, is of vital national importance.

1.5.2. I-70 in Illinois

I-70 travels 167 miles, crossing the state of Illinois from west-to-east starting in Madison County in the St. Louis metropolitan area on the western side of the state, and ending at the Indiana state line in Clark County on the eastern side of the state.

Highway: Traffic Volumes range from 69,000 ADT in the western segments near St. Louis to 20,000 to 50,000 ADT in central rural locations. Trucks generally comprise 20 to 30 percent of the volume.

Truck and Freight Flows: As shown in **Table 1-5**, 68 percent, by weight, and 85 percent, by value, of freight traveling in, out, or through Illinois is via highway. Growth in highway tonnage is expected to continue as the major mode of transportation. Highway tonnage growth is projected to grow 68 percent in volume to 73 percent and 138 percent in value by 2035. **Figure 1-18** shows this growth.

Trading Partners: Indiana and Missouri are among Illinois' top four trading partners. In 2002, trade with Indiana represented 16 percent of the tons and 13 percent of the value; trade with Missouri represented 10 percent of the tons and nine percent of the value of Illinois' total trade.

Intermodal Connectivity: In Illinois, I-70 is intersected by two major north-south interstates, I-55 and I-57. I-55 intersects I-70 on the western side of the state and I-57 intersects I-70 in the central part of the state at Effingham. Both of these interstates provide connectivity to the Chicago metropolitan area.

Figure 1-18: Truck Flows in Illinois 2002 and 2035

Figure 1-18: Truck Flows in Illinois 2002 and 2035, Continued

Source: FHWA (FAF²)

The efficient performance of I-70 for truck traffic in Illinois is of critical national significance because the Corridor connects the national and international trade center in St. Louis to other major centers of commerce in Indianapolis and Chicago through connections in Illinois. Dramatically improved efficiency on I-70 has the ability to reroute through traffic out of Chicago, thus reducing congestion and associated air quality concerns in the Chicago metropolitan area.

1.5.3. I-70 in Indiana

I-70 travels approximately 150 miles crossing central Indiana and accommodates large and rapidly growing volumes of commercial traffic.

Highway: Average daily traffic across I-70 in Indiana is 56,501 vehicles per day and commercial truck traffic makes up 35 percent of the mix. Traffic in the rural portions of the state range from 22,000 to 67,000 ADT. **Figure 1-9** in **Section 1.2.4** and **Figure 1-1** in **Section 1.4** demonstrate that the urban Indianapolis portion of 1-70 is projected to be totally gridlocked by 2030.

Air Travel Connections to the Corridor: The Indianapolis International Airport is the nation's 7th largest air cargo airport. Between 2004 and 2005 air cargo tonnage increased by 9.98 percent. In 2005, approximately five billion pounds of air cargo landed and 4.2 million passengers were enplaned there.

Truck and Freight Flows: As shown in **Table 1-5**, 65 percent, by weight, and 78 percent, by value, of freight traveling in, out, or through Indiana is by highway. Growth in highway tonnage is expected to continue as the major mode of transportation. Highway tonnage growth is projected to grow 107 percent in volume to 67 percent, and 178 percent in value to 79 percent in 2035. **Figure 1-19** shows this growth.

Trading Partners: Illinois and Ohio are among Indiana's top four trading partners. In 2002, trade with Illinois represented 27 percent of the tons and 20 percent of the value; trade with Ohio represented 12 percent of the tons and 13 percent of the value of Indiana's total trade.

Intermodal Connectivity: Indianapolis serves as a hub where three major interstates converge with I-70. Those interstates are I-65, I-69, and I-74. I-65 travels through the state from the Louisville, Kentucky metropolitan area on the Ohio River to the Chicago, Illinois metropolitan area at the northwest corner of the state. It provides vital connectivity to the Ohio River Jeffersonville Port and the Great Lakes Port of Indiana at Burns Harbor/ Portage located 18 miles from Chicago on Lake Michigan. Adding 24 companies since 1985, the Ohio River Jeffersonville Port, across from Louisville, Kentucky, is one of the fastest growing ports on the Ohio River. It is adjacent to an area that has been called the automotive and appliance alley, and it provides intermodal facilities for steel, grain, bulk and project cargo. Burns Harbor on Lake Michigan services more ocean-going cargo than any other Great Lakes port. It handles 15 percent of the U.S. – European steel trade

and five percent of U.S. international steel trade. I-69 connects I-70 to the automotive and automotive aftermarket manufactures located along a corridor stretching from Indianapolis, Indiana to Detroit, Michigan.

The Indianapolis metropolitan area is rapidly becoming a major player in logistics/distribution. The second-largest domestic FedEx hub is located at the Indianapolis International Airport, located next to the I-70 Corridor. Also in close proximity along the I-70 Corridor is a major logistics/distribution complex which has developed over the past 10 years in Hendricks County, immediately west of the Indianapolis Airport. The CSX rail intermodal facility is also situated to the north and west of the Indianapolis Airport in the town of Avon. These, plus many other manufacturing and biomedical facilities, rely upon the I-70 Corridor to ship and receive products.

Indiana also plans to extend I-69 to the southwest, connecting the I-70 Corridor to the city of Evansville, located on the banks of the Ohio River. I-69 is the NAFTA Highway and is intended to connect Mexico with Canada. I-74 crosses Indiana in a generally southeasterly direction from the Danville/Champaign Urbana, Illinois area to Cincinnati, Ohio.

Indiana also has two proposed intermodal facilities near the I-70 Corridor. These include the Terre Haute Inland Port Intermodal Facility and the Connersville Inland Port Intermodal Facility.

Figure 1-19: Truck Flows in Indiana 2002 to 2035

Figure 1-19: Truck Flows in Indiana 2002 to 2035, Continued

Source: FHWA (FAF²)

The efficient performance of I-70 for truck traffic in Indiana is of critical national significance because:

- With the advent of NAFTA, Indianapolis is fast becoming a national and global center of trade and commerce, placing growing demands on freight connections to the national interstate system;
- The planned expansion of NAFTA corridor I-69 to the southwest is expected to increase the volume of sensitive freight traffic on I-70 as a major connection to this new north-south route; and
- The I-70 Corridor provides an essential link for trans-continental trade through the center of America.

The sustained performance of I-70 in Indiana depends heavily on its suitability to perform as a corridor for heavy trucks. Like the other states along the Corridor, I-70 also serves as a major east-west interstate corridor through central Indiana. Average daily traffic across the I-70 Corridor in Indiana is 56,501 VPD, its commercial truck traffic makes up 35 percent of the traffic mix along I-70. The highest traffic concentrations along the Corridor can be found in Marion County on the outskirts of Indianapolis. For all of these reasons, a new and innovative strategy for I-70, which addresses the efficiency, mobility and safety of truck traffic, is of vital national importance.

1.5.4. I-70 in Ohio

I-70 travels approximately 235 miles across central Ohio.

Highway: Average daily traffic across I-70 in Ohio is 53,000 vehicles per day. Commercial truck traffic makes up a significant portion of the mix. Traffic in the rural portions of the state range from 26,000 to 42,000 ADT. The highest traffic concentrations can be found along the 145 mile segment from I-75 to I-77 that also includes two of Ohio's major urban areas: Dayton and Columbus. Urban area ADTs range from 99,000 to 156,000 vehicles per day.

Air Travel Connections to the Corridor: Ohio is home to two of the nation's top 40 air cargo facilities. James M. Cox – Dayton International Airport is the nation's 18th largest air cargo airport. In 2005, approximately 1.5 billion pounds of air cargo landed and 1.2 million passengers were enplaned there. Rickenbacker Airport is the 39th largest air cargo airport, landing 752 million pounds in 2005. Between 2004 and 2005 air cargo tonnage increased by 26.56 percent. Port Columbus International Airport enplanes 1.2 million passengers per year.

Truck and Freight Flows: As shown in **Table 1-5**, 66 percent, by weight, and 77 percent, by value, of freight traveling in, out, or through Ohio is via highway. Growth in highway tonnage is expected to continue as the major mode of transportation. Highway tonnage growth is projected to grow 78 percent in volume to 71 percent, and 110 percent in value to 72 percent in 2035. **Figure 1-20** shows this growth.

Trading Partners: Indiana and Pennsylvania are among Ohio's top four trading partners. In 2002, trade with Indiana represented 10 percent of the tons and 10 percent of the value; trade with Pennsylvania represented 11 percent of the tons and seven percent of the value of Ohio's total trade.

Intermodal Connectivity: While I-70 carries a substantial amount of daily traffic throughout the entire Corridor, the highest traffic concentrations can be found along the 145 mile segment from I-75 to I-77. These two junctions provide access via I-75 to port facilities on Lake Erie and the Ohio River. Both I-75 and I-77 are major north-south corridors.

Columbus is also the home of two major rail intermodal terminals: the Norfolk & Southern and the CSX terminals. The newly developing Rickenbacker Intermodal Facility in Columbus is a fast growing air, rail and trucking hub that connects to the Heartland Rail Corridor and the Port of Norfolk, and draws freight from throughout the nation.

I-70 intersects with three north-south interstates, I-75, I-71, and I-77, all of which provide connectivity to river ports on the Ohio River and the Lake Erie ports at Toledo and Cleveland. The Lake Erie ports at Toledo and Cleveland are part of the Great Lakes/St. Lawrence Seaway System, a waterborne freight transportation network capable of moving hundreds of millions of metric tons of international cargo per annum.

Figure 1-20: Truck Flows in Ohio 2002 and 2035

Figure 1-20: Truck Flows in Ohio 2002 and 2035, Continued

Source: FHWA (FAF²)

The efficient performance of I-70 for truck traffic in Ohio is of critical national significance because:

- I-70 provides national freight connections to major rail intermodal terminals;
- The Corridor provides an essential link for trans-continental trade by making I-70's traffic to and from points west of Ohio accessible to the Great Lakes/St. Lawrence Seaway system ports of Toledo and Cleveland; and
- The Corridor provides links to I-75 to International Ports in Detroit, Michigan and the Ohio River port in Cincinnati, Ohio.

The sustained performance of I-70 in Ohio depends heavily on its suitability to perform as a corridor for heavy trucks. Based on a statewide ranking, the Ohio Department of Transportation has identified sections of I-70 between I-75 and I-77 as being some of the highest congested roadways in the state. Some of those sections have also been identified as exceeding design standards. For all of these reasons, a new and innovative strategy for I-70, which addresses the efficiency, mobility and safety of truck traffic, is of vital national importance.

CORRIDORS OF THE FUTURE
PHASE II APPLICATION

SECTION 2: CLEAR SOLUTION

SECTION 2: CLEAR SOLUTION

The I-70 dedicated truck lanes project set forth in this section demonstrates how this solution will address congestion by making the Corridor safer, more efficient, and more effective overall as a national route for travel and commerce.

Dedicated truck-only lane (TOL) facilities as proposed refer to lanes or entire highway segments that are for dedicated use by trucks. These lanes as proposed would be additions to the existing I-70 alignment.

Dedicated TOLs facilities as proposed refer to lanes or entire highway segments that are for dedicated use by trucks.

Evaluating the Economic Feasibility of Truck-Only Facilities (USDOT, March 2007) reports that most of the completed truck-only facilities, or new projects under development, have involved the short distance separation of trucks from passenger vehicles at interchanges or international border crossings. This application presents a new and innovative concept in the United States: development of segregated TOLs along the nearly 800 mile Corridor of I-70 between western Missouri and eastern Ohio.

This section:

1) Describes the Corridor-wide "vision" of the project and why dedicated truck lanes are a clear solution to:
   a. Congestion Reduction,
   b. Mobility Improvements,
   c. Economic Benefits and Support of Commerce, and
   d. Value to Users of the Corridor;
2) Clarifies why the new TOLs Corridor will attract trucks;
3) Discusses conceptual design and engineering issues; and
4) Identifies other potential strategies to be incorporated into the TOLs project.

2.1. CORRIDOR-WIDE "VISION" OF THE PROJECT

The Missouri, Illinois, Indiana, and Ohio Departments of Transportation (DOTs) have done well, maintaining the aging I-70 infrastructure as traffic volumes well exceed what the highway was designed to carry. Safety improvements throughout the Corridor have included geometric

upgrades, wider and brighter striping, median cable barriers, freeway reference markers, and deployment of freeway service patrols, amongst others. However, as traffic volumes increase and congestion grows, these supplemental measures provide minimal benefits as compared to the impact of separating truck and passenger car movements into their own dedicated lanes.

Heavy vehicles make up a Corridor average of 21.5 percent in urban areas and 27.5 percent in rural areas of the overall traffic on I-70 in Missouri, Illinois, Indiana, and Ohio. As this ratio of trucks to cars increases, so do the severity of crashes, level of congestion, and delay. By pursuing the I-70 Corridor of the Future project in unison, the states of Missouri, Illinois, Indiana and Ohio will be establishing a nearly 800 mile seamless, efficient and safe Corridor to facilitate the movement of goods throughout the Midwest.

While this Corridor may pose several challenges, it also provides opportunity for America's economic "big picture," enabling several levels of improved goods movement efficiency. I-70 TOLs represent a new logistics model for the nation and provide an opportunity to partner with a critical customer of roads – the trucking industry – to develop and implement a sound strategy. The I-70 dedicated TOLs project has the potential to address many of the key issues facing transportation systems today while providing mobility improvements to both the driving public and trucking community.

A dedicated truck corridor of this length can be designed to accommodate long haul trucks with larger and heavier loads and, with evolving technologies, it could provide opportunities for trucks to travel both safely and efficiently at higher speeds than current standards and infrastructure supports. A unified corridor of this length, designed in concert with intermodal linkages, freight transfer facilities, and truck staging areas, will enable larger freight loads to be transferred for long distances more efficiently and without conflicting truck size and weight standards. The segregation of trucks and passenger vehicles, and the application of new freight accommodations and efficiencies, will also present unique financing options for this Corridor, including such items as pay for use for greater weight, size, speed, etc. In the near term, the I-70 TOLs will provide for the safer and more efficient movement of goods. More importantly, allowing for the segregation of trucks over such a long distance, it could continue to serve for many years to come as a testing ground for new evolving technologies supporting electronic traffic management, freight movement, and other needs that have not yet been conceived. It will be a true "Corridor of the Future."

2.2. WHY DEDICATED TRUCK-ONLY LANES ARE THE SOLUTION

The proposed I-70 TOLs Corridor will increase the mobility of people and freight. Without improvement, much of the I-70 Corridor in Missouri, Illinois, Indiana and Ohio is expected to reach, or exceed, capacity by 2030. Adding general purpose travel lanes to this Corridor is not, in the long run, viewed as the most efficient solution to the capacity issue. Dedicated TOLs provide additional benefits beyond simply preserving system capacity. Dedicated TOLs will help improve the national logistics model and provide opportunities

to enhance the national economy, while improving safety and congestion in ways general purpose lanes cannot.

2.2.1. Freight Movement of the Future

The intent of this project is to accommodate and enable improved freight efficiencies such as making the Corridor a more attractive destination for long distance hauling. It is recognized that the separation of truck traffic will also make I-70 a safer, more attractive route for passenger vehicles as well.

A design for the future of freight movement should include assessment of the barriers encountered by the manufacturing and trucking industries in the transfer of goods and materials, as well as those barriers faced by complimentary modes of freight transfer. In addition to the more traditional design issues for the trucking of today, a corridor of this length with segregated truck lanes enables FHWA and the nation to assess entirely new concepts for the movement of freight via roadways.

If provided a clean or nearly clean slate, what would we do differently? Would trucks be heavier or longer, or should corridors such as this enable wider or taller loads? Should/could travel speeds be raised? If not, might navigational and operational technologies of the near future enable speeds, loads, and sizes on this corridor that would not even be considered today? Might it require a corridor of this size, designed to accommodate higher speeds and loads, to test the next stage of technologies needed to move the industry forward?

To assure that a grand opportunity is not missed, the partnering states for the I-70 Corridor propose to work with the FHWA not only in continued consultation with the American Trucking Associations (ATA), but also in engaging industrial freight shippers, information technology transportation researchers, and the rail and container shipping industries who provide and receive truck freight. The input of all components of the freight industry must be accounted for in the design of a true “Corridor of the Future.”

A corridor that attracts users also opens up new potential financing mechanisms. Could a corridor be made to be so attractive from an operational cost and efficiency perspective that users would go out of their way to use it and gladly pay tolls? Could the separation of lanes provide controls and safety mechanisms necessary for the testing of new transportation technologies? Would the providers of new pay for use technologies like freight networking, electronic communications and advertising, or other not yet developed technologies be willing to pay for the testing and use of their systems and infrastructure within the Corridor?

A unified long-haul freight corridor designed to complement existing intermodal linkages will enable goods movement efficiency.

2.2.2. I-70 Corridor – Connectivity Between Key Trade Destinations

I-70 holds a strategic location for goods movement. Via rail connections in Kansas City, Missouri and

Columbus, Ohio, the I-70 Corridor has seamless access to deep water ports on both east and west coasts. Via air connections in all major cities, the Corridor has connections to intercontinental markets. In addition, via highway connections, the Corridor is linked to Mexican and Canadian markets. The I-70 Corridor is an untapped route for strategic regional, U.S., and international goods movement. This corridor has the potential to become the trade corridor of the future. **Figure 2-1** illustrates the variety and location of intermodal facilities in the immediate vicinity of the I-70 Corridor.

Figure 2-1: Intermodal Facilities

Source: Wilbur Smith Generated Map

The beginning and ending points of this corridor are strategic; at one end is Kansas City, Missouri, and the eastern end is near Columbus, Ohio and ends near Pittsburgh, PA. Both Kansas City and Columbus are established and growing intermodal destinations that will benefit individually by the designation of this corridor as a TOLs corridor, and provide the ability for additional growth along the route as more and more companies choose to conduct business with companies located in these key cities.

Kansas City, Mo.: Geographically located in the center of the United States, Kansas City, Missouri is located at the crossroads of three of the nation's major interstates, I-29, I-35, and I-70. Using this strategic location to its advantage, Kansas City is hard at work to become the hub of an expanded international trade corridor between the United States, Mexico, and Canada. This city has been aggressively pursuing the North American International Trade Corridor to solidify its role as a transportation logistics and distribution hub for the country, and I-70 is one of the integral spokes in the North American Continent Trade Corridor.

Supporting Kansas City's efforts for increased trade with Mexico and Canada is its intermodal connectivity via air, land, and sea. Kansas City has the second-largest rail center in the nation, and its airport is the 33rd largest air cargo airport in the nation. The former Richards-Gebaur Air Force Base has been converted to an international trade facility called the International Freight Gateway. Kansas City also claims the largest Foreign Trade Zone in the United States, with more than 10,000 acres serving companies such as Bayer, Kawasaki, Pfizer, and Sony. Kansas City is also home to the world's largest underground business complex, Sub-Tropolis, comprised of nearly five million square feet of goods storage and distribution facilities. The city is also located on the Missouri/Mississippi River System, the nation's largest navigable inland waterway.

Columbus, Ohio: Strategically located within 500 miles, or a one-day truck trip, of more than half the U.S. population, Columbus, Ohio sits at a freight distribution nexus. Columbus is located at the crossroads of Interstates 70 and 71, and is working hard to ensure that it also sits at the crossroads of major rail networks. Norfolk Southern railroad has identified Columbus as a strategic point on its intermodal rail network and is developing a new intermodal facility in Columbus to connect with their "Heartland Corridor" initiative: a series of intermodal yards linked by a double-stack cleared rail line connecting Columbus, Ohio to the deep water port of Norfolk, Virginia.

This Norfolk Southern intermodal facility, which is part of the Heartland Rail Corridor, will be located at Rickenbacker International Airport as part of a developing Global Logistics Park (GLP). This GLP will be the hub of multimodal shipping activity in the Midwest, providing companies located in the Park a variety of shipping options, from truck to air to rail. An independent study, conducted for the intermodal yard development only, suggests that in the next 30 years 9,500 direct jobs and 10,900 indirect jobs will be created, as will 34 million additional square feet of industrial building development. From an economic standpoint, this translates into a $15.1 billion economic impact; more than $800 million in direct local, state and school district tax revenues; and $1.26 billion of indirect tax revenues. When combined with the addition of I-70 TOLs to support this development, it can be inferred that projected local benefits would be even greater. **Appendix A** includes a resolution of support from MORPC, the Columbus MPO, addressing this connectivity.

The many intermodal facilities and linkages that exist along the I-70 Corridor and the adjoining business communities will benefit economically from the proposed I-70 TOLs. These facilities will also serve to make the Corridor more attractive to additional freight

users looking at new options for moving their goods by more expedient or cost-effective means.

2.2.3. Shift in Trucking Operations - Alternatives that will Attract Trucks

TOLs, particularly on longer interstate corridors, can improve operating efficiencies for the trucking industry. As conceived, the I-70 "Corridor of the Future" will allow for seamless long-haul trucking operations over a nearly 800 mile stretch of highway. This distance will, in some cases, make the Corridor an attractive, cost-effective alternative to rail, enabling rail loads to be more cost-effectively transferred to trucks in Kansas City or Columbus, bypassing the significant rail congestion in Chicago that is a detriment to time-sensitive shipments.

A dedicated TOL corridor of this length can be designed to seamlessly accommodate longer, heavier, faster long-haul trucks.

Truck weight limits and configurations will be consistent throughout the length of the I-70 dedicated TOLs Corridor, reducing the need to break down loads at state lines. The prospect of deploying Longer Combination Vehicles (LCVs) also carries a cost savings. Described below are some of the truck-specific operational components that will be employed to target and encourage the use of the facility by trucks.

2.2.4. Longer Combination Vehicles

A cornerstone of the TOLs corridor, and key to the attractiveness of the route to trucks, will be the ability for the route to handle LCVs. In 1975, Congress established an allowable gross vehicle weight limit on the interstate system at 80,000 pounds and little has changed in the years since to allow good movement flexibility. The restrictions of these weight limits pose serious restraints on the extent of cargo that can be carried, and not only reduce the efficiency of distribution networks for commercial operators, but also increase the number of trucks that need to travel on roads to deliver goods.

Reporting by the Reason Foundation states, "the relaxation of gross vehicle weight limits on TOLs is essential to making highways safer while improving truck productivity. With more reasonable weight limits, freight could be moved more efficiently using fewer large trucks, which would, in turn, improve safety by reducing the number of trucks on the highways." As **Table 2-1** suggests, the movement of 500,000 pounds of freight between two points takes:

- Ten regular five-axle tractor/semi-trailer trips;
- Eight trips by a Canadian-style six-axle tractor/semi-trailer (three axles on the tractor plus three axles on a tridem semi-trailer);
- Seven trips by Rocky Mountain double;
- Six trips by a Canadian B double or a U.S. triple trailer; and

- Five trips by a turnpike double.

This illustrates that truck trips can be reduced by as much as 50 percent if LCVs are allowed to operate. Reason Foundation research also suggests that the corresponding reduction in the volume of truck traffic in addition to increasing the number axels, would reduce the wear and tear on the highway infrastructure.

Table 2-1: Comparative Productivity of Existing Truck Configurations

	Tractor/Semi-trailer	STAA Double	Canada tri-dem/semi	Rocky Mountain Double	Turnpike Double	Triple	Canada B-double
Configuration	3-S2	2-S1-T2	3-S3	3-S2-T2	3-S2-T4	2-S1-T2-T2	2-S3-S2
	5-axle	5-axle	6-axle	7-axle	9-axle	7-axle	8-axle
Trailers (ft)	To 53'	2x28'	48'	48+28'	2x48'	3x28'	2x32'
Gross wt. (000 lbs)	80	80	97	119	148	132	132
Empty wt. (000 lbs)	30	30	33	43	47	44	38
Payload (000 lbs)	50	50	64	76	101	88	94
Payload Ratio (relative to tractor/semi)	1.00	1.00	1.28	1.52	2.02	1.76	1.87
Trips to move 500,000-lb	10	10	8	7	5	6	6

Source: Toll Truckways: A New Path Toward Safer and More Efficient Freight Transportation, Reason Foundation

In a working paper entitled, "The Effect of Size and Weight Limits on Truck Costs" completed in 1991 by Herbert Weinblatt for the FHWA, costs are compared for LCVs on a cost-per-ton basis with those of a standard 53-foot, five-axle combination truck with a gross vehicle weight of 78,000 pounds. It found that:

- A seven-axle, triple 28-foot trailer truck with a gross vehicle weight of 116,000 pounds would be 20 percent more productive; and
- A nine-axle, twin 48-foot trailer truck (turnpike double) with a gross vehicle weight of 127,400 pounds would be 24 percent more productive.

All data shows that it is more efficient and cost-effective, with less wear and tear on the system, if LCVs are allowed.

2.2.5. Truck Platoons and High Occupancy Truck Lanes

Another potential that would make the Corridor more efficient, and would attract additional freight from other congested corridors, is Truck Platooning (TP). TP is a mass flow concept of maximizing the through-put of commercial vehicles on a highway using

physical and/or electronic connections that allow an entire platoon to be controlled as a single unit. The concept offers the benefit of dramatically reducing fuel consumption, eliminating delays caused by congestion on mixed vehicle facilities, and potentially reducing the cost of labor inputs. Most truck platoon concepts being advanced include a dedicated road infrastructure, similar to the TOLs proposed in this application. Benefits of truck platooning include:

- Vehicle Operational Cost Savings: More that 50 percent of the fuel consumed by a typical five-axle tractor-trailer combination is the result of aerodynamic drag. Research estimates that truck platoons can reduce fuel consumption by 10 to 20 percent. Additional research to verify estimates and better understand both energy saving and potential off-setting costs is needed.
- Driver Cost Savings: In the long term, major cost savings could result from driverless trailing vehicles. This would require both significantly improved control technologies and major regulatory changes. In the short term, operational cost savings are possible, if drivers in trailing units are placed in a "non-duty status" with hours of service regulations.
- Infrastructure Saving: Dedicated truck-only facilities, as proposed for I-70, could accommodate significantly higher capacity and greater time reliability using mass flow platoons. The development of a working and effective concept of truck platooning, or any future visionary freight trucking concept, will require what I-70 provides: a long enough distance to make cost savings and investment worthwhile, at a location not so developed as to make it prohibitively expensive to develop TOLs.

2.2.6. Consistent with Trucking Industry Position

As a part of the process to prepare this application, the multistate Coalition contacted, and worked with, the American Transportation Research Institute (ATRI), the research organization affiliated with the American Trucking Associations (ATA). The success of this Corridor will be determined by how well it meets the needs of, and is accepted and used by, the trucking industry.

The trucking industry recognizes the critical need for new road capacity. This is bolstered by Federal Highway Administration statistics which estimate that by 2018, the United States will experience a 70 percent increase in truck tonnage and vehicle miles traveled (VMTs) at the same time that infrastructure capacity increases by three to four percent. That reality forms the basis for the willingness of the trucking industry to fund new capacity – particularly TOLs – with new and/or dedicated revenue sources. It also underpins the opposition of the trucking industry to applying new "alternative funding mechanisms" to existing roadways.

The trucking industry's national association, ATA, has promulgated several policy positions on the use of different revenue collection tools. The general trend for ATA policies is to support maximizing existing revenues, followed by identification of new funding sources

that return a high percentage of the revenue to infrastructure maintenance and capacity development.

Prior to the completion of the SAFETEA-LU legislation, an innovative infrastructure development and funding program called "FAST" (Freeing Alternatives for Speedy Transportation) was introduced in congress that conceptually provided targeted capacity enhancements for projects that met a series of criteria.

The mission of the FAST legislation is:

- To allow new, tolled express traffic lanes on the interstate system. The *federal restrictions on existing capacity/lanes* would continue since a) these provide trucks and cars with the alternative options, and b) there is some rational argument that at least the infrastructure capital of existing lanes has already been paid for with fuel taxes;
- Use of FAST lanes would be *voluntary*;
- FAST lanes would represent *new capacity*;
- Toll collection must be *electronic* and offer freeway-speed processing;
- Toll revenue collected must be *expended on the new capacity*; and
- Tolls would be *eliminated* once the new FAST lane infrastructure capital was paid for.

In summary, the Kennedy amendment dramatically increased the opportunity for states to use tolls for highway financing and congestion management, but it also ensured that tolls would be used in a manner that improves capacity, reduces congestion, and offers productivity options and cost controls (vis-a-vis voluntary usage).

The FAST program, offered as an amendment to the SAFETEA-LU legislation, met all of ATA's transportation policies at the time it was offered, with the most important being the voluntary use component. While not making it into the SAFETEA-LU legislation, it will be presented and re-evaluated for future legislation.

2.3. SOLUTION: MOBILITY THROUGH CONGESTION MITIGATION

The I-70 Corridor is key to Midwest, U.S., and international trade, I-70 is located in the heartland and is grounded by stable industry and developments that ensure and spur economic growth. Timely and reliable trucking is essential to an economy in which businesses keep inventories low and use just-in-time delivery to keep costs down and maintain responsiveness to customers. The increased reliability derived from the added capacity that dedicated truck lanes can provide results in improved responsiveness and less downtime to customers, ultimately translating into reduction in travel costs for the industry.

Although this application is focused on establishing dedicated TOLs along I-70 Corridor, the benefits of the program will be felt not only regionally, but also along parallel corridors that distribute goods nationally. As it stands today, the I-70 Corridor is comparatively less congested than the parallel corridors of I-80, I-90, and I-40. However, according to a study conducted by Texas Transportation Institute (*Current State-of-The-Practice for Managed Lanes*, 2002), the creation of a TOLs facility has the potential to shift truck traffic from more congested parallel roadways to the TOLs Corridor.

A segregated truck and passenger corridor will provide for more efficient movement of goods.

There is no better east-west corridor to facilitate regional congestion relief than I-70. Its central location between I-80/90 and I-40 makes it readily accessible, and its relative level of development makes it more cost-effective to improve. The supporting multimodal infrastructure and crossroads connections make it superior for cost effective multimodal freight movement. It is the intent of the I-70 TOLs Corridor to provide adequate capacity to accommodate and attract trucks from congested parallel corridors where lane additions of this type would not be feasible.

With the I-70 TOLs Corridor, the quality of traveling experience will improve for both passenger cars and commercial vehicles. Large trucks can intimidate motorists traveling in passenger vehicles. It is not unusual for relatively small passenger vehicles to feel boxed in by trucks in front, behind, and alongside them. If all vehicles in the general traffic lanes were roughly the same size, there would be less stress on those motorists who are nervous about sharing the road with large trucks.

TOLs would help improve speeds. Because the acceleration and braking performance of trucks is much lower than that of most passenger vehicles, removing trucks could substantially improve traffic flow on highway segments with heavy traffic. The Transportation Research Board's (TRB's) *Highway Capacity Manual 2000* concludes that one combination truck takes up approximately the same road capacity as 1.8 to eight autos, depending on terrain and traffic conditions. A caveat is, in some instances, improved traffic flow may induce additional traffic.

According to a study conducted by the Texas Transportation Institute (*Current State-of-The-Practice for Managed Lanes*, 2002), truck facilities could have positive impacts on noise and air pollution, fuel consumption, and other environmental issues. Creating and maintaining an uninterrupted flow condition for diesel-powered trucks will result in a reduction of emissions and fuel consumption when compared to congested, stop-and-go conditions.

2.4. SOLUTION: SAFETY

The Federal Motor Carrier Safety Administration's *Large Truck Crash Facts 2003* notes that of all of the crashes involving large trucks and passenger vehicles, a total of 84 percent of fatalities were passengers in those vehicles that were not large trucks. This inequality can

be attributed to the sheer size and mass of large trucks, placing passenger vehicles at a disadvantage in crash incidents. To segregate the two traffic streams would result in less conflict between passenger vehicles and trucks and, consequently, result in fewer crashes where occupants of the passenger vehicles would be exposed to the dangers associated with truck crashes. Separating trucks from passenger vehicles could substantially improve the safety of passenger vehicle travel because approximately 12 percent of all passenger vehicle occupant fatalities occur in crashes with heavy trucks.

A segregated truck and passenger corridor will enhance passenger and truck safety.

Segregated traffic streams also result in a *perceived* safety improvement for truck operators. Truck drivers have a certain degree of anxiety when driving near passenger cars, much like the automobile drivers' concern with trucks. Size of the passenger car, as well as how close a car is to a truck, oftentimes results in the car being in the blind spot of a large truck. From a truck operator's perspective, passenger vehicles can demonstrate less predictable driving patterns than those of other large trucks[1].

With regard to the proposal of developing the I-70 TOLs to accommodate larger trucks, the Federal Motor Carrier Safety Administration's (FMCSA's) *Large Truck Crash Facts 2005* reports, "singles (truck tractors pulling a single semi-trailer) accounted for 62 percent of the large trucks involved in fatal crashes, doubles (tractors pulling two trailers) made up three percent of the large trucks involved in fatal crashes, and triples (tractors pulling three trailers) accounted for 0.1 percent of all large trucks involved in fatal crashes in 2005." This data relates what trucking companies practice, using their safest, most skilled drivers in the heavier trucks, resulting in the best safety records with their LCVs.

TOLs provide unprecedented opportunities for regional, national, and international commerce.

In the event of crash incidents on either the TOLs or passenger vehicle lanes, the employment of dedicated truck lanes provides strategic reliability to ensure ready access in crash incidents and other emergencies: redundant lanes with built-in crossovers will assist in incident management, provide quicker emergency access, and reduce or, in some cases, eliminate the need to shut down segments of the roadway for hours. The redundant lanes also provide opportunities to improve the safety of major construction activities and reduce construction costs and delay by enabling traffic shifts and total or partial shutdown of lanes for construction.

2.5. SOLUTION: TRADE

The trucking industry is the largest sector of the commercial distribution network, carrying approximately 68 percent of all freight tonnage and 88 percent of freight transportation revenue. It is also the most complex and diverse mode, with more than 620,000 interstate firms; 14 million commercial trucks; and 10 million NAICS-categorized

1 *"Public Roads." USDOT, Sept-Oct 2005, p.8.*

employees, of which 3.2 million are large commercial truck drivers. The trucking industry in total is experiencing major economic stress, including intense competition and related rate pressures, high fuel and insurance costs, driver shortages, and new equipment requirements for safety and air quality.

Due in part to these stresses, recent industry data shows the average number of miles driven per truck has decreased in the last two years after decades of steady increases. The cause may be related to increases in congestion, changes in operations, the shift of some long-haul trips to rail intermodalism, or some combination of these factors. However, low barriers to entry and a large (3.2 million mile) network of existing roadways produces a very fluid industry that can accommodate near real-time change. The question is: why isn't this network being fully utilized?

I-70 TOLs will provide an opportunity for the Midwest to have economic security and use the supporting infrastructure in place. Although many drivers see the presence of trucks on the interstate as a nuisance, the fact is, these trucks (i.e., freight) drive the economy. If we are unable to preserve this life line that takes goods to market and provides essential services to each and every person along the Corridor, we are not securing our economic future. As it becomes more and more time consuming and costly for trucking companies to deliver services, the products that consumers buy will also become more costly.

TOL lanes could have an impact on many facets of the landscape and, possibly the most relevant to consumers, the price of goods. According to FHWA, the cost of time for large trucks is higher than the cost of time for small cars, at $25.24 and $15.71 per vehicle hour, respectively. The value of reliability (i.e., the cost of unexpected delay) is another 50 to 250 percent higher than these values of time. This data indicates that as truck operations become more efficient, the cost to the consumer will be reduced. Similarly, the fewer trucks that are on the road, the lower the cost to the consumer.

2.6. DESIGN CONCEPT

At this point it is unknown what shape details of the final I-70 Corridor alternative may take. No design standards have been determined or agreed upon by the corridor states. However, the concept that has gained the most acceptance involves four additional dedicated truck lanes, two lanes in each direction. Alternative or interim solutions may be appropriate at select locations, as will be determined during early engineering and environmental processes.

The following figures provide a schematic for TOLs. The first, **Figure 2-2**, illustrates two dedicated TOLs in each direction, located in the center median with general purpose travel lanes shown on the outside, segregated by a grassy median.

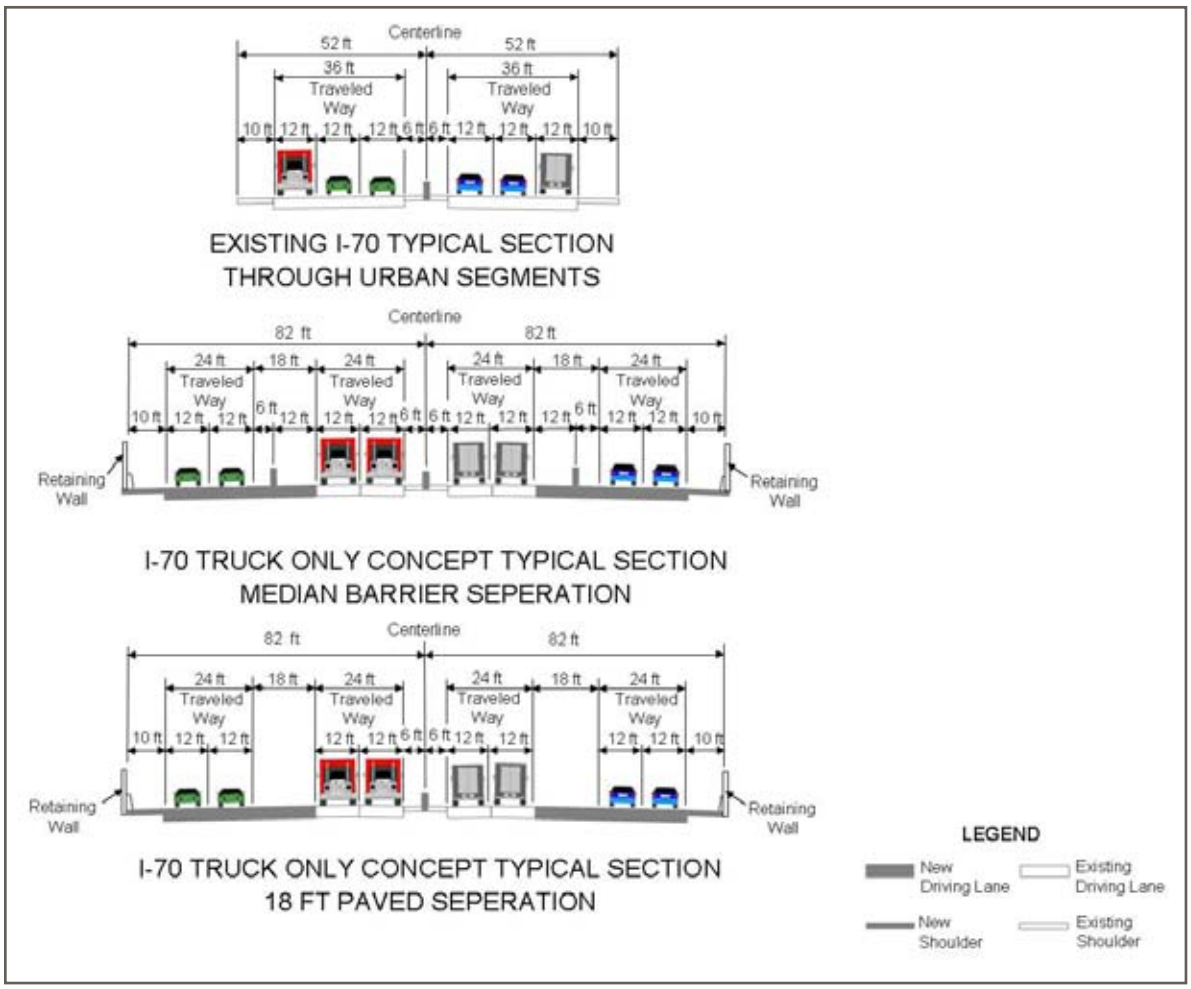
It will not be practical to employ this concept of grass buffers in urban areas. For these areas, TOLs would likely remain in the center of the right-of-way, separated by concrete

median barriers. **Figures 2-3** and **2-4** present other urban and rural typical section options.

Figure 2-2: Median TOLs

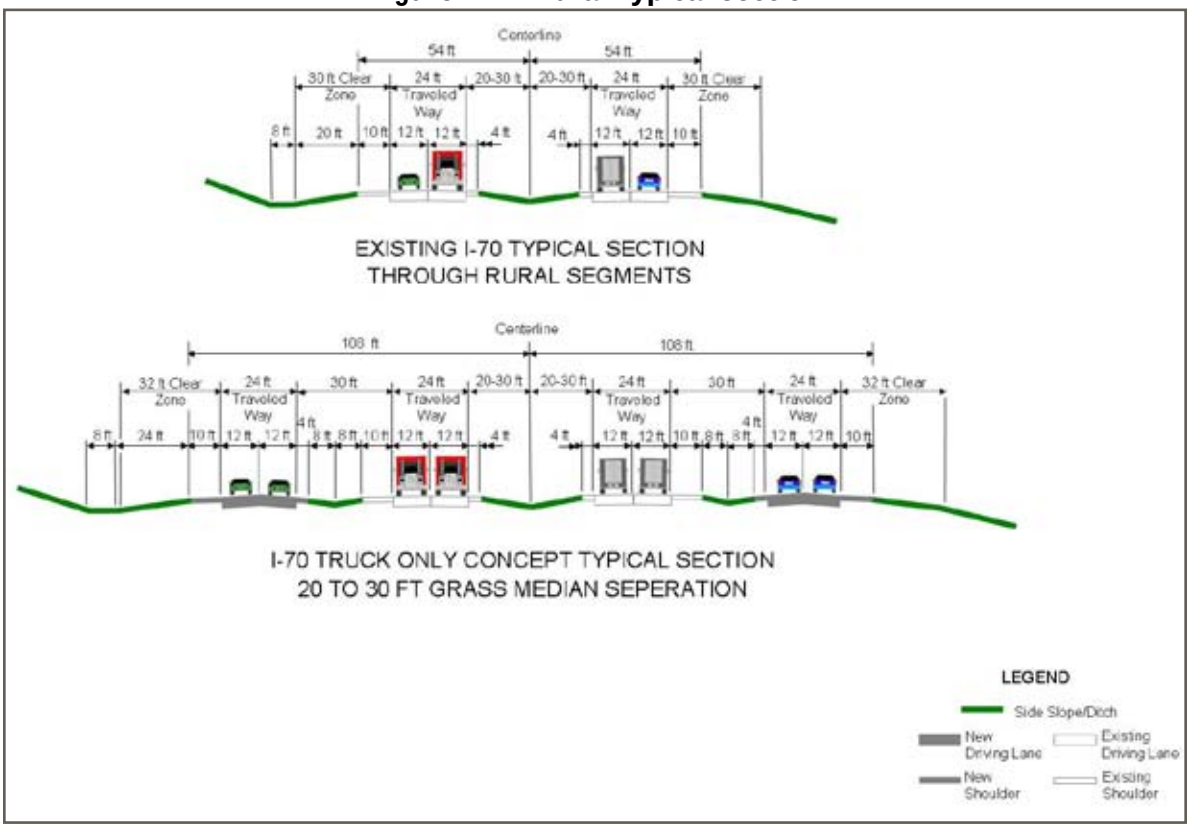
Source: MoDOT, Reconstructing Missouri's Oldest Interstate Highways With Median Truck Lanes

Figure 2-3: Urban Typical Section



Source: Wilbur Smith concept

Figure 2-4: Rural Typical Section



Source: Wilbur Smith concept

2.6.1. Corridor Alignment

While Corridor alignment has been discussed in general in conversations with state DOTs and Metropolitan Planning Organizations (MPOs), until design feasibility and environmental analysis has been completed, it is premature to present any specifics. Current thinking suggests:

- Rural Areas: a first option to be evaluated will consider adding TOLs inside existing lanes or within existing interstate rights-of-way. This will avoid need for major re-alignments or acquisitions of private property.
- Urban Areas: if insufficient right-of-way exists to add TOLs within the existing I-70 Corridor in urban areas, states will explore a number of options including but not limited to adding the TOLs to existing northern or southern beltways; using other existing parallel facilities; etc. All options will be fully explored prior to considering new alignments.

2.7. DESIGN ISSUES

The complexity of the design and operational issues for dedicated truck lanes are greater than those of standard alternatives. The key design feature which enables the benefits listed herein (i.e., improved traffic flow, improved safety, larger loads, reduced congestion, improved construction traffic flow, emergency access, etc.) are all possible because of the physical separation of general purpose traffic lanes (i.e., passenger cars and delivery trucks) from those lanes being used by long-haul commercial vehicles.

Unique design features will ensure safety and efficiency within the corridor.

The standard highway of today is designed to carry a mix of passenger cars and heavy vehicles; however, TOLs will have different design standards applied to them to ensure they can be operated and maintained efficiently over their design life. It is likely that the need to use higher design standards specifically targeted for trucks will result in higher capital costs compared to standard highway construction. However, the general purpose lanes are likely to witness a corresponding reduction in pavement damage associated with heavy truck loads. The design and operational freight efficiencies provided will influence the draw I-70 TOLs have on trucks from other congested trade routes such as I-80, I-90, and I-40. Detailed benefit-cost analyses will need to be conducted to determine the full impact this Corridor will have on the traffic flows and economy of the region.

Design strategies for the four larger urban areas along the Corridor will require additional study to determine the most prudent and feasible alternatives for moving truck traffic around or through the large metropolitan areas of Kansas City, Missouri, St. Louis, Missouri, Indianapolis, Indiana, and Columbus, Ohio. Following is a discussion of some key issues related to the design of TOLs along the I-70 Corridor.

2.7.1. Lack of Truck-Only Facility Design Guidelines

Design guidelines are lacking for the type of truck-only facility proposed in this application. The Texas Transportation Institute's *Truck Accommodation Design Guidance: Final Report* (2003) compares the guidelines that are currently in the *AASHTO Green Book* and the *TxDOT Roadway Design Manual*, and recommends modifications in cases where 2-lane, 2-way exclusive truck lanes are considered. Modifications are recommended for stopping sight distance, intersection and channelization on connecting corridors, lane width, shoulder width and composition, sideslopes and drainage features, traffic barriers, passive signs, and acceleration lanes. Design to accommodate freight movement of the future would likely result in further recommended design modifications. This would take place in consultation with FHWA, AASHTO, the trucking industry, and freight providers.

2.7.2 Geometry/Lane Design

The cross-section proposed for this Corridor contains exclusive TOLs. The *Summary Report on Truck Accommodation Design Guidance* (TTI, 2006), recommends that these facilities

contain no less that two lanes in each travel direction for a variety of common sense and safety reasons. Several TOL technical considerations must also be addressed, including:

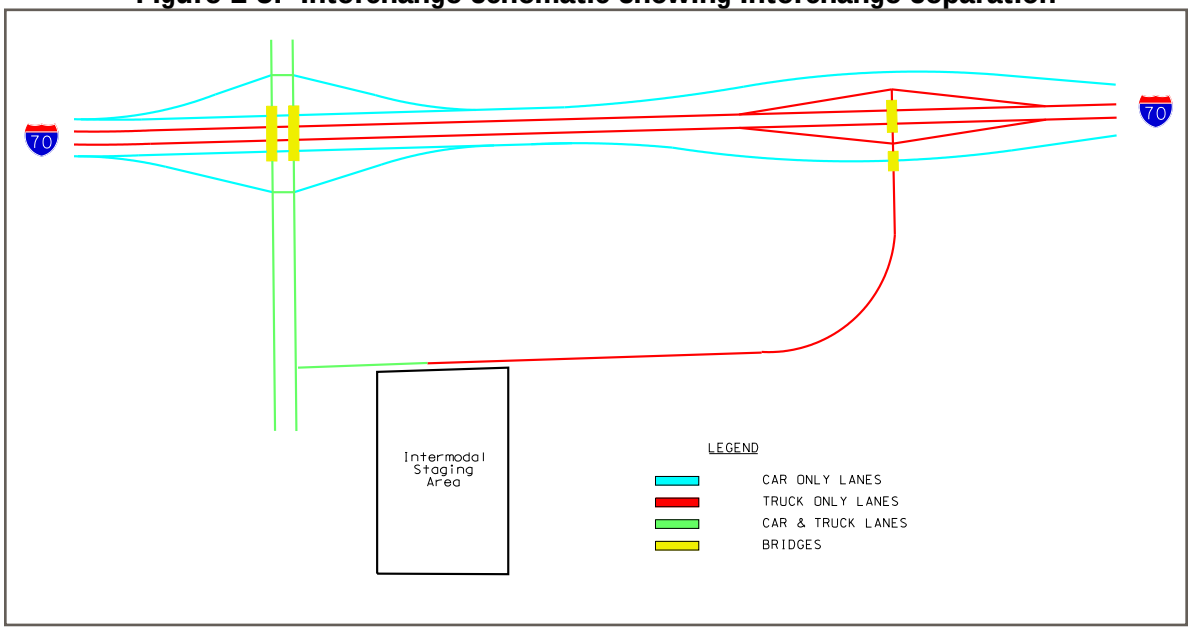
- *Right-of-Way*: It must be recognized that the design of this Corridor will be dependent on available right-of-way. The limited availability of space within urban freeway rights-of-way will likely require compromises to accommodate new lanes within existing freeway cross sections in select urban areas.
- *Wider Lanes and Adequate Shoulders*: Although a wider cross-section is required, lane widths and the need for adequate shoulders will not be compromised. These are necessary to not only accommodate standard long-haul trucks, but also to accommodate additional oversize and overweight vehicles that will likely be drawn to these lanes.
- *Sufficient Separation*: Both lateral and longitudinal physical separation should be addressed in the design to support safe access into, and out of, the facility, as well as appropriate clearance for passing.
- *System Flexibility*: This Corridor will be designed to allow system flexibility. A key advantage of creating separation between travel modes is that in the event of an incident, redundant lanes can serve as a point to ease induced congestion. Built-in crossovers will assist in incident management, reducing (or eliminating) the need to shut down segments of the roadway for hours.

2.7.3 Access Points and Control

Interchange spacing and access control is an element that needs to be carefully designed and appropriately spaced. Access points must be located to allow the entrance/egress of long-haul trucks to the places they need to go; however, they must not be too closely spaced to cause bottlenecks at weaving sections of these locations. This application keeps general and commercial traffic separated at all points along the Corridor, including access points. Each mode will have its own entrance and exit ramps to avoid mixing heavy truck traffic with autos and light trucks. This minimizes exposure between vehicles and maximizes safety benefits.

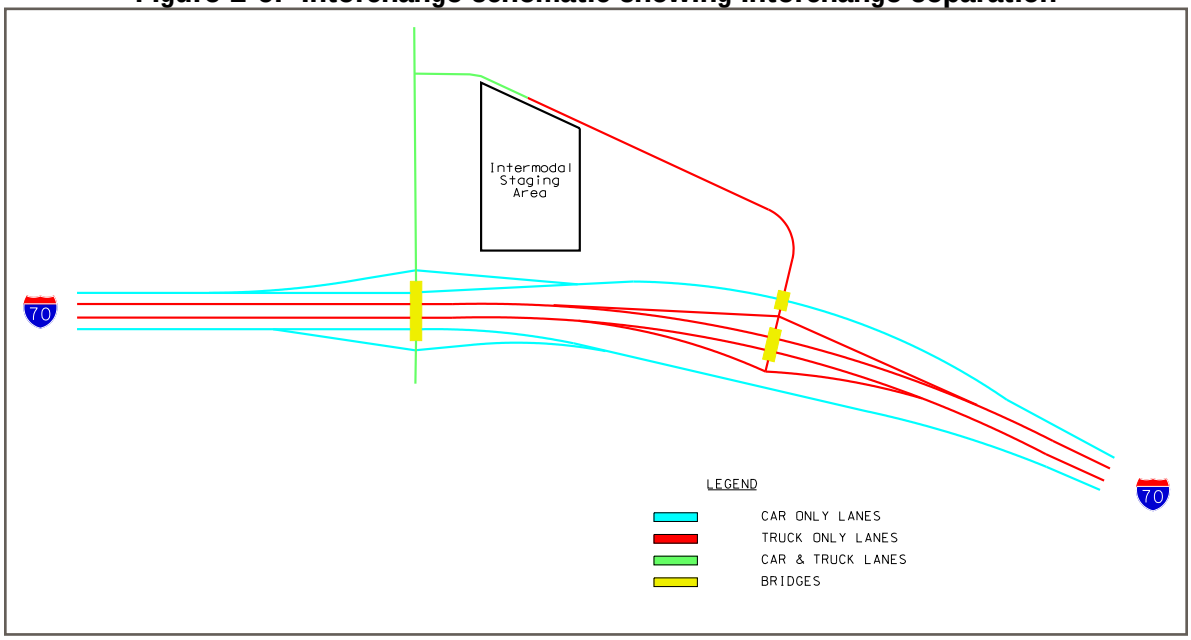
Figure 2-5, 2-6 and **Figure 2-7** provide sample illustrations of how interchanges could be laid out. These were developed for specific purposes at specific locations on this Corridor and are by no means representative of the full spectrum of alternatives that will be considered and evaluated. The examples represent the concept of assigning the truck lanes to the inside of the cross-section. This would minimize the need for complete interchange reconfiguration at any location. For interchanges that do not have truck lane access, a limited amount of construction work will be needed (i.e., new overpass bridges crossing the outer lanes and modification to the tapered ramp terminal). Other interchange options that may be considered include merging trucks and cars on the ramps and at the termini. The best interchange will be selected for the specific location.

Figure 2-5: Interchange Schematic Showing Interchange Separation



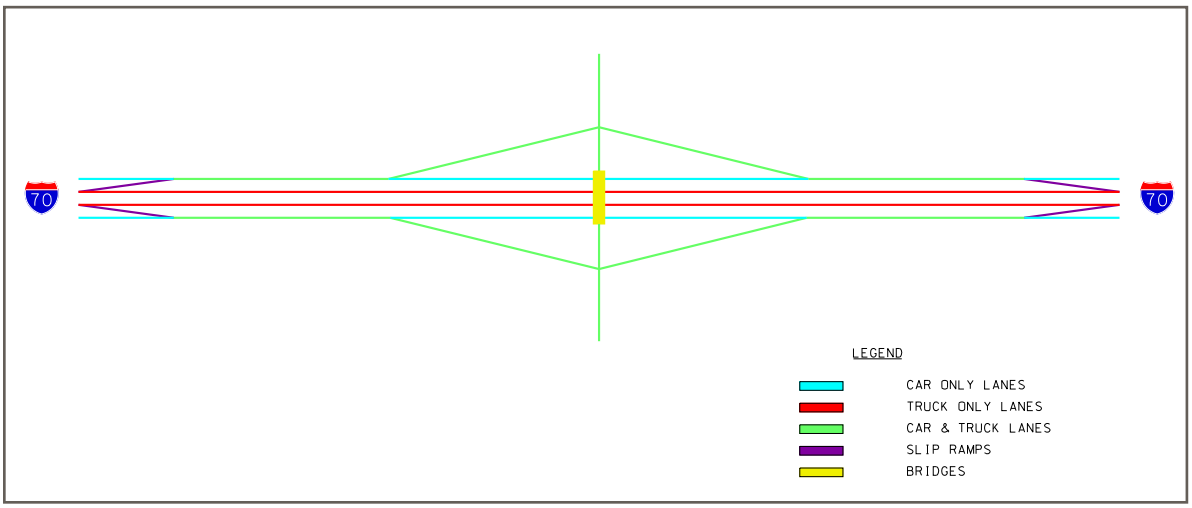
Source: Wilbur Smith concept

Figure 2-6: Interchange Schematic Showing Interchange Separation



Source: Wilbur Smith concept

Figure 2-7: Interchange Schematic Showing Slip Ramp



Source: Wilbur Smith concept

2.7.4. Staging Areas

Appropriately located staging areas are key to the success of this TOL Corridor. Because the TOLs will accommodate LCVs and trucks with higher weight and size thresholds (i.e., weights and sizes that are not currently allowed along interstates or other connecting roadways), staging areas will be needed to accommodate the "breaking down" of doubles or triples to single truck units for travel from/to their origin/destinations.

A comprehensive study will be conducted that reviews the major industries in the Corridor (i.e., FedEx in Indianapolis, Rickenbacker Global Logistics Park in Columbus, etc.) and then recommends appropriate locations for staging areas that best serve commerce. At a minimum, staging areas will be located at the beginning/ending points of the Corridor, and at interstate interchanges. The study will determine at what other major highways, major cities or emerging industrial areas additional staging yards will be required. In some cases, these staging yards will be colocated with public and private roadside parking facilities and weigh stations.

2.8. COST CONSIDERATIONS

Irrespective of future design, the need to use design standards that are specifically targeted for the trucks of today, or the future, will result in higher capital costs compared to standard highway construction. As stated, depending upon the utilization of truck lanes, the general purpose lanes will also witness a reduction in pavement damage associated with heavy truck loads.

Section 3.3 and **Appendix D** provide planning level cost estimates for constructing the TOLs facilities through both urban and rural segments of the Corridor.

2.9. OTHER STRATEGIES TO BE ENABLED

Ultimately, production efficiency in the trucking industry equates to quantity of freight moved and number of trips completed within a given time frame. For a TOLs facility, efficiency and safety automatically increase simply through the elimination of truck and passenger vehicle interaction and weave movements.

Now, consider the potential efficiencies when adding any or all of the following features made possible by a TOLs facility:

- Pavement designs accommodating heavier loads per vehicle or axle;
- Geometric and safety features enabling potentially faster travel speeds;
- Significantly reducing construction and incident delays (35 percent of all congestion) due to information technologies and the ability to cross-over traffic to adjoining travel lanes during construction or major incidents;
- Safely carrying wider or longer loads that enable manufacturers and shippers to rethink their shipping and assembly processes;
- Developing new technologies that would not otherwise be feasible or practical, if not for the size of the Corridor (e.g., truck platoons, high speed electronically controlled vehicle operations, truck trains that move cabs between yards on an automated conveyance system where they are assembled and disassembled, etc.).

Design is not proposed to feature undeveloped technologies or brainstorms. However, this Corridor could certainly provide a unique platform for the investigation of developing technologies. The cost of these future technologies is not included in the cost estimates presented in **Section 3.3**.

Beyond the design and construction of dedicated TOLs, a number of operational and Intelligent Transportation Systems (ITS) strategies will be incorporated into the project to further reduce congestion and improve mobility and safety.

The Missouri, Illinois, Indiana and Ohio DOTs will work with the FHWA in continued consultation with the American Trucking Association and engaging industrial freight shippers, information technology transportation researchers, and the rail and container shipping industries that provide and receive truck freight. The input of all stakeholders in the freight industry will be considered in the design and development of the I-70 TOLs "Corridor of the Future."

Although proper facility design is essential to the success of the facility, also important are the operational strategies used throughout the Corridor. *Managed Lanes, A Primer* (FHWA)

suggests various operational strategies be reviewed prior to implementation/operation including:

- Integrated Transportation Opportunities and Technology;
- Roadside Parking; and
- Tolling Options/Congestion Pricing.

These issues and options are under consideration by the state DOT's as they discuss the design and development of the dedicated TOLs on I-70. Following is an overview of the current thinking on these issues and options as they relate to this project.

2.10. ITS INTEGRATION

ITS help transportation networks work in the most effective and efficient way possible through the use of technology applications.

From a freight perspective, ITS helps shippers/carriers move goods to destinations reliably while improving traffic flow, reducing delays, improving fuel consumption, and minimizing air and noise pollution. There exist specific technologies developed for the sole use of commercial vehicle fleets. Installation of sufficient traffic management, monitoring and control devices is key to enabling agencies to make real-time operational decisions.

The I-70 TOLs project can serve as a Pilot Corridor for Federal ITS Integration activities.

The following are several state-of-the-practice ITS applications to be examined for potential application on the I-70 Corridor in order to provide additional mobility efficiencies to the TOL concept, as well as the traveling public.

2.10.1. Advanced Traffic Management Systems

Advanced Traffic Management Systems (ATMS) are the backbone for other ITS applications, providing the means for data collection. ATMS provide eyes-on-the-road information via detection devices, cameras, and communication systems which monitor traffic, optimize signal timings on connecting arterials, and improve the flow of traffic.

Each of the I-70 Corridor states is pursuing ATMS systems of one type or another and operating those systems via Transportation Management Centers (TMCs). TMCs are the heart of system data collection and the point of operations for freeway management systems. TMCs process the myriad of data collected and then produce information that gets distributed to stakeholders such as the media, other agencies, and the traveling public. TMCs are also where agencies can coordinate their responses to incidents. Participating states would assess their operational and technological compatibilities to enable connecting state TMCs virtually, in order to share information across state lines and operate the Corridor seamlessly.

Example of Benefits: A combination of ITS technologies in Detroit, Michigan - including advanced traveler information systems, highway advisory radio, ramp metering, and variable message signs - increased average vehicle speeds by 8.7 kilometers per hour (5.4 mph), decreased trip times by 4.6 minutes, and reduced commuter delay by 22 percent. (*Traffic Congestion Factoids*, FHWA, 2006)

2.10.2. Traveler Information

Advanced Traveler Information Systems deliver data directly to travelers, enabling them to make better choices about alternate routes or modes of transportation. Information can be reviewed pre-trip, or while en route, enabling travelers to make "on-the-fly" adjustments based on real-time traffic conditions.

Driver information and signing can be extremely useful, if located in ways travelers can readily access it. Information portals can be developed to link travel, incident, road construction and weather condition information on the Corridor. Information can then be pushed to dynamic message signs, web portals at truck stops, freight transfer facilities, rest stops, or handheld devices. This information can also be pulled from established "511" systems, the universal 3-digit telephone number, to provide one-stop shop access for travel and traffic information. An integrated multistate corridor ITS system, in conjunction with separated truck and vehicle lanes, will present an exceptional opportunity for this Corridor to minimize incident- and construction-related congestion in particular. ITS systems combined with crossovers will also allow for routing traffic onto the adjoining lanes in these circumstances.

2.10.3. Emergency Management

Emergency management systems provide traffic operators with the tools to allow quick and efficient response to incidents, hazardous spills, and other emergencies. These systems can automatically contact a call center when a driver presses a button or an airbag deploys.

Not all emergency management systems are "technology based." One example is the deployment of freeway service patrols that quickly clear blockages. The development of incident management plans that identify alternate routes in the event of closures is key to keeping routes clear so that emergency management vehicles can enter the scene. As noted previously, redundant lanes will also facilitate easy traffic re-routing, as well as emergency response.

2.10.4. Commercial Vehicle Operations

ITS will enable more reliable and timely commercial vehicle management. ITS will automatically keep track of HAZMAT and other red flag information about the vehicle and its cargo. ITS will help communicate this information to the authorities so that vehicles can be cleared through checkpoints without stopping, as appropriate.

At the federal level, the Commercial Vehicle Information Systems and Networks (CVISN) program has been developed and is beginning to be deployed. The I-70 Corridor could serve as a pilot corridor for this initiative. The Federal Motor Carrier Safety Administration has developed the CVISN program to be a coordinating portal for information systems owned and operated by governments, motor carriers, and other trucking stakeholders. The focus of this effort is on being a nationwide one-stop shop for commercial vehicle safety information, e-credentialing, and e-screening.

Example of Benefits: Coordinating a Midwest CVISN deployment for the I-70 Corridor would streamline the screening/credentialing process for the four states involved, saving all states time and money. In fact, carriers commissioned new vehicles 60 percent faster by printing their own electronic credential paperwork and not waiting for conventional mail delivery, and motor carriers surveyed indicated CVISN electronic credentialing reduced paperwork and saved them 60 to 75 percent on credentialing costs (ITS Benefits Database, FHWA).

Weigh-in-Motion/Virtual Weigh-in-Motion Technology: Weigh-in-motion technology will be assessed as another means to reduce travel times for truck drivers by reducing delay. In conjunction with the ability to design a corridor to accommodate heavier loads, weigh-in-motion technology also offers the opportunity for a unique financing mechanism. Opportunities for variable tolling mechanisms will be assessed, one of which could be offering freight carriers the option of paying variable tolls for the ability to carry heavier loads, with the toll rate dependent on weight.

2.10.5. Advanced Vehicle Safety Systems

The Vehicle Infrastructure Integration (VII) program is a joint effort between the USDOT and the automobile industry to develop an information infrastructure that uses advanced communications to exchange real-time information between the roadside and vehicles to improve safety and mobility. Examples of technologies that could improve safety within the I-70 Corridor include:

- Automated Crash Notification Systems to transmit crash information to responders;
- Rear-End Collision Avoidance Systems to sense the presence and speed of vehicles ahead and provide warnings to avoid collisions; and
- Road Departure Collision Avoidance Systems to track the lane or road edge and suggest safe speeds for the road ahead.

The addition of dedicated truck lanes over the length of the Corridor could serve as a testing ground for even more advanced technologies in the future for both trucking and passenger vehicles.

2.10.6. Electronic Toll Collection/Congestion Pricing

This technology allows tolls to be collected electronically, usually without the need for costly vehicle stops and queuing. Violation enforcement is possible through video imaging; and, in some cases, video imaging can be used for electronic tolling itself.

Because tolling is done electronically, it is easy to adjust the fees collected and charge variable rates based on vehicle, as well as implement demand management strategies. Each participating trucking firm would maintain a prepaid account with the toll operator from which tolls would be deducted based on recorded miles driven from entry point to exit point on the tollway. Through automatic vehicle classification systems, it would be possible to dynamically identify vehicle size and weight category.

Tolling is just one of many financing options for the proposed I-70 TOLs. Tolling can also be utilized in combination with other funding mechanisms, as discussed further in **Section 3.3**. Most innovative financing techniques raise concern with various segments of the populous. However, a corridor of this length, designed to accommodate trucking of the future, enables a variety of potential unique incentives for financing and electronic tolling in particular.

Given the length of the Corridor, the potential TOLs would be extremely attractive to truckers, if significant opportunities for increased efficiency were introduced. The trucking industry itself has expressed a willingness to pay relatively significant tolls in return for sizable improvements in efficiency.

For example, one possibility might be to allow full "Turnpike Doubles" and/or other similar arrangements where one driver/cab might be able to pull two full-sized trailers over extended distances. This would greatly reduce the cost for operators, as compared with two drivers pulling the two trailers; and operators would be willing to pay to gain these efficiencies. In its simplest forms, allowing for turnpike doubles, triple trailer trucks, or heavier loads in conjunction with weigh-in-motion monitoring, variable tolling for a corridor of this length would support a design where truck operators might be given options to pay for efficiency. Dependent on the design, they might choose to pay in order to take advantage of greater efficiencies in weight, truck size, and speed.

In the spirit of a true "Corridor of the Future," newly evolving traffic operations, navigational, vehicle and design safety technologies may one day provide the means to safely and efficiently move trucks at much higher speeds. Such improvements are likely to take place incrementally. Improvements in one technology would require improvements in others, just as the interstate design standards of today have evolved to address changes in vehicle design and operational speeds. Similar changes have taken place in many transportation technologies.

Given the challenges of addressing large truck size and weight in all aspects of operational design, no significant improvement in truck speed efficiency is likely practical without segregated truck corridors. Such corridors would also likely need to be lengthy in order

to make the investment and potential time savings worthwhile. However, no such opportunities are likely to ever be realized without a "Corridor of the Future" suited to first apply the early incremental changes that will move the industry forward.

2.10.7. Need for Corridor ITS Architecture

The I-70 Corridor travels through four major MPO areas, each of which has been required to develop a regional ITS architecture. Similarly, each state possesses a statewide ITS architecture, outlining their respective visions for ITS deployment. Because each area has varying needs, architectures between regions and states will vary. As this project moves forward, the states will look at opportunities for developing an ITS architecture specific to the Corridor that can be integrated into existing systems to provide consistency for motorists traveling the I-70 Corridor.

2.11. ROADSIDE PARKING

Inadequate roadside parking for trucks can lead to serious safety concerns. Lack of parking prompts tired truck drivers to continue driving in search of parking down the road or park in unsafe areas (i.e., exit ramps and shoulders). These situations are unsafe for truck drivers and the driving public alike. The development of TOLs will separate truck/automobile movements and provide additional safe truck parking via staging areas.

The FHWA's *Study of Adequacy of Commercial Truck Parking Facilities - Technical Report* (2002) surveyed drivers regarding parking needs and decision making, developed an inventory of National Highway System (NHS) parking facilities, and determined projected shortages in roadside parking facilities. The study found that after Texas and California, the applicant states of Indiana, Illinois, and Ohio had the greatest truck parking needs. **Table 2-2** illustrates FHWA's calculation of the truck parking demand/supply ratios for the I-70 Corridor states.

Table 2-2: Truck Rest Area Parking Space Utilization

	Public (Rest Areas)		Commercial (Truck Stops)		Total	
State	Ratio	Category	Ratio	Category	Ratio	Category
Missouri	4.28	Shortage	0.72	Surplus	0.89	Surplus
Illinois	2.63	Shortage	1.16	Shortage	1.33	Shortage
Indiana	1.77	Shortage	0.99	Sufficient	1.10	Shortage
Ohio	2.35	Shortage	0.96	Sufficient	1.12	Shortage

A roadside parking management plan (smart parking) developed in concert with the I-70 Corridor will provide additional designated parking locations and contribute to overall user safety. Providing "yellow page" type information on where designated locations are within the Corridor via web pages, rest area postings, dynamic message signs, and hand-held devices will be part of the solution.

CORRIDORS OF THE FUTURE
PHASE II APPLICATION

SECTION 3: CLEAR PATH TO SUCCESS

SECTION 3: CLEAR PATH TO SUCCESS

As stated in the **Introduction**, Missouri, Illinois, Indiana, and Ohio DOTs have only been working together on this concept for approximately one year. Their first discussion was at the Mississippi Valley AASHTO Conference in 2005. The truck-only lanes (TOLs) project is in its initial development stages. The first activities needed to move this Corridor Coalition and project ahead will be to formalize the Coalition relationships and Corridor development management approach; to actively inform and engage the public and elected officials in discussions about TOLs and approaches to their financing; to initiate detailed feasibility studies for the Corridor; to advance needed legislative changes; and to evaluate realistic, feasible and innovative financing options for the project.

It is significant to note the speed and cooperation in preparing this Phase 2 Corridor of the Future Program (CFP) Application is a demonstration of the commitment of the Missouri, Illinois, Indiana and Ohio DOTs to advance the project as swiftly as possible. This level of commitment and ability of the four state DOTs to quickly reach consensus and work together for a common goal will continue as the project moves ahead.

The speed and cooperation in preparing this Phase 2 CFP Application is a demonstration of the commitment of the Missouri, Illinois, Indiana and Ohio DOTs to advance the project as swiftly as possible.

Initial steps have begun to inform and solicit cooperation from the Metropolitan Planning Organizations (MPOs), other public and business stakeholder organizations along the Corridor, and neighboring state DOTs. As the project becomes a reality, additional outreach and education will take place.

The American Transportation Research Institute (ATRI), the research arm of the American Trucking Associations (ATA) Federation, has been a contributor to this application. As the project becomes a reality, additional outreach and education with the trucking industry and trucking dependent businesses will continue.

ATRI has been a participant in developing this application.

As soon as the proposed I-70 TOLs project is selected and designated as a Corridor of the Future, the Missouri, Illinois, Indiana and Ohio DOTs will use the time line and priorities presented in this section as an action plan to move the project ahead.

Section 3: Clear Path to Success describes the actions that the Coalition and state DOTs will advance to move the vision to a reality. It includes a description of:

1) Management, administrative and planning actions needed to advance the Corridor Coalition and project:
   a. Formalize the Coalition,
   b. Public outreach, including stakeholder and elected official education and engaging, and involving the public, stakeholders, and elected officials in discussions and decisions to develop the Corridor, and
   c. Planning and feasibility analysis;
2) Environmental analysis needed and streamlining options that will be applied to the TOLs project;
3) Planning level cost estimates for the project;
4) Innovative finance and project delivery strategies that will be applied and could serve to "fast track" the project; and
5) Project time line, including milestones and priorities.

3.1. PROJECT MANAGEMENT, PLANNING AND FEASIBILITY ANALYSIS, AND PUBLIC INFORMATION AND PARTICIPATION

Action will begin within days of receiving notification of selection.

The first actions needed to move the TOLs project ahead are to: formalize the I-70 Corridor Coalition organization; begin public and elected official education and outreach efforts; scope the needed feasibility studies; and advance needed legislative changes. Action will begin within days of receiving the notification of selection.

3.1.1. Formalize the I-70 Corridor Coalition

Formalizing the I-70 Corridor Coalition will include, but not be limited to:

- Developing and sign a Corridor of the Future Program Development Agreement (CFPDA) with the coalition of states, MPOs, municipalities, and federal agencies. This will address commitments of all parties to the Corridor with respect to financing, planning, environmental process, design, construction, operations, maintenance, and other components of the Corridor.
- Developing and agree to a Corridor management action plan. The management plan will include designating staffing to advance the Corridor and potentially hiring a Corridor manager who reports to all four states and is dedicated to advancing the TOLs project through its development phases, from planning and environmental through construction, operation, and maintenance.

- Continuing discussions with West Virginia, Maryland, and Pennsylvania and invite these states to join the Corridor Coalition.
- Continuing discussions with the MPOs, municipalities, and public and private sector stakeholders such as businesses and industries along the Corridor and invite them to support the Corridor Coalition.
- Continuing to work with ATRI and the other partners in the ATA Federation, making them a partner in the process.

3.1.2. Public Outreach

Societal and public opinion regarding the implementation of a managed lane strategy may be the single most important factor in advancing the project swiftly. Unfavorable public opinion can result in either the curtailment or cancellation of projects, or provide a preconceived notion of the effectiveness of a strategy that may affect future projects. A marketing strategy and public education campaign are, therefore, paramount for successful implementation of any managed lane strategy. Given that legislative changes will be needed to advance several of the financing options, it will be a critical priority to begin informing and educating local and state elected officials as soon as the Coalition is organized.

A study conducted by Texas Transportation Institute (2002) cites public opinion as perhaps the most significant obstacle to exclusive truck facilities. In the reserved capacity feasibility study by Trowbridge et.al., an attitudinal study of motorists and the general public examined opinions regarding the use of High Occupancy Vehicle (HOV) lanes by trucks. The response by the general public indicated considerable resistance to any strategy that was perceived as a special benefit to truck traffic. However, it should be noted that the general public was favorable to truck lane restrictions. Individual comments included responses (19 percent) that trucks were unable to maintain constant speed or traveled at different speeds.

Developing and beginning to implement a public education, outreach and participation plan for all phases of the project is a top priority for the Corridor Coalition.

The outreach and participation plan will begin to be developed with the formalization of the Coalition. Announcements and activities will begin with press releases of the Corridor's selection as a Corridor of the Future. The outreach and participation plan will be refined and evolve as the project development process progresses and continue through construction and operation. At a minimum, the outreach and participation plan will include:

- Identifying a uniform messages that all Coalition DOTs and MPOs agree to in conveying information about what the I-70 TOLs project is about, what TOLs are, and how they

will reduce congestion and improve commerce; and how stakeholders can be involved in the project development and decision making process.

- Developing informational materials and a plan to educate local and state elected officials about TOLs and the I-70 Corridor of the Future project.
- Developing a detailed multilevel outreach and participation plan to both inform and engage the public and all stakeholders about the project.
- Identifying and addressing issues of public concern as the project moves forward (e.g., potential costs to construct, tolling, taxes, potential increase in truck volumes, potential re-routing of passenger vehicles, and other congested routes).
- Working with state DOTs and MPOs to implement the outreach and participation plan.
- Working with media along the Corridor to educate the public and special interest groups, businesses, and organizations to win their support for the concept of TOLs.
- Working with the private sector to begin developing private sector opportunities along the Corridor.
- Working with the ATA Federation, other freight sectors, and the manufacturing industry to envision and plan for freight movements of the future.

3.1.3. Feasibility Analysis

While the organization structure is formalized and the outreach and participation plan developed, the state DOTs will begin to scope the initial feasibility studies needed for the Corridor as a whole, and for each state individually. Missouri DOT will review and determine if changes may be needed to their plans and environmental documents and what opportunities this designation may have for advancing Missouri's I-70 projects. All states will identify related planning, environmental and design work or changes needed to advance the Corridor. This will include, but not be limited to:

- Define and scope planning and feasibility studies needed to flesh out details for the project (many of the feasibility study issues and analyses have been identified throughout this application):
  - Review and summary of the I-70 studies completed by state DOTs and MPOs on sections of the Corridor,
  - Identify gaps and needed studies,
  - Scope feasibility studies needed to address the Corridor as a whole, and
  - Agree on which studies will be advanced through the Corridor Coalition and which will be advanced by individual states;
- Work with Federal Highway Administration (FHWA) to request the combined use of the four state DOTs SPR II funds as a multistate research project for which a

100 percent federal funding level can be used to cover the cost of the multistate feasibility analyses/studies;

- Assign agency staff to complete studies and/or develop RFPs and advertise and hire consultants to complete the needed feasibility studies. Feasibility studies will include corridorwide, statewide, and some urban area studies evaluating:
  - Detailed planning/project feasibility,
  - Traffic, safety and congestion analyses,
  - Environmental overview,
  - Financial feasibly and options, and
  - Design; and
- Identify design guidance needed (as discussed in **Section 2.7.1**) and begin working with AASHTO/FHWA/TRB/Green Book contributors to expedite research in the area of TOLs design.

3.1.4. Legislative Changes

If tolling and Public-Private Partnerships (P3s) are determined by the feasibility studies to be used, a number of legislative changes will be needed to permit states to toll or use public private partnerships to advance the TOLs project. This is discussed in **Section 3.4** and **3.5**. To expedite this process, the following will begin as soon as the Corridor Coalition is organized:

- Educate state elected officials on TOLs and the innovative financing options that will need to be considered to advance the Corridor.
- Specify and develop the language needed for the legislative changes needed by each state DOT:
  - Tolling, public-private partnerships (P3s), etc., and
  - Advance legislative changes.
- Work with Missouri to piggyback on their provisional approval for tolling, which will provide the option to advance tolling, if that is determined to be the most feasible corridor financing option. Missouri DOT has offered this option, provided it does not delay tolling options on their section of I-70.

Organize Coalition = 3-6 months from notification of designation (2007)

Public and Officials Education = begins immediately and is ongoing (2007- 2020)

Feasibility Studies = 2 years (2007-2009)

Legislative Changes = 2-3 years (2008-2010)

In addition, Corridor states may also require legislative changes to permit higher truck speeds and heavier weights.

3.1.5. Proposed Time line to Organize and Begin Work

It is estimated that from the notification of designation it will take the states approximately three to six months to reach agreement and secure signatures of the CFPDA, develop the management plan, develop an outreach and participation plan, and scope the initial feasibility studies needed to begin the project. Other related administrative and legislative action will begin during this period but are expected to take two to five years to complete. Please see the project time line in **Section 3.5**.

3.2. ENVIRONMENTAL STEWARDSHIP ACTIONS AND INNOVATIONS FOR STREAMLINING

The streamlining of the environmental process is integral in keeping transportation projects on schedule and on budget. The complexity of compliance with the National Environmental Policy Act (NEPA) can lead to delays in the approval of required environmental documents or permits. Environmental streamlining processes will be utilized to effectively complete the NEPA and permitting process without jeopardizing environmental quality of the I-70 project. In addition to streamlining the environmental process, demonstrating environmental stewardship by making decisions mindful of both the human and natural environment will be important as the I-70 CFP TOLs project moves forward. The NEPA process will not be easy for a corridor of this size, and ample coordination and mitigation is necessary. However, no major environmental fatal flaws are currently apparent on the Corridor. It is not adjacent to any Indian tribal lands and does not appear to significantly impact any sensitive environmental, cultural, or historic areas.

3.2.1 Current Status of NEPA Actions in the I-70 Corridor

Each of the four participating states in the I-70 Corridors of the Future application, Missouri, Illinois, Indiana, and Ohio, are at different stages in the environmental development process related to the proposed I-70 TOLs project.

Missouri has completed a Tier 1 Environmental Impact Statement (EIS) with a Record of Decision (ROD) for a proposed widening of the I-70 Corridor through the state. Missouri has also recently finalized the Tier 2 documents for I-70 segments of independent utility (NEPA documents have not been initiated in either the St. Louis or the Kansas City MPO). The concept of TOLs was not included in the original alternates studied in the Tier 2 NEPA documents. Therefore, the addition of the TOLs will require Missouri to reevaluate the Tier 2 NEPA documents. The footprints originally defined in MoDOT's I-70 NEPA documents are sufficient to accommodate TOLs, and no additional right-of-way will be necessary beyond that already defined. Therefore, no additional NEPA studies are needed, other than reevaluation of the existing Tier 2 NEPA documents. Although MoDOT should receive NEPA approvals for the Tier 2 I-70 documents ahead of Illinois, Indiana, and Ohio, MoDOT will participate in streamlining and stewardship activities implemented during this project by offering their perspective and sharing their experiences and lessons learned.

At the time of this application, Illinois, Indiana, and Ohio have not initiated any NEPA documents for the I-70 Corridor.

3.2.2. Challenges and Issues

With all the players involved in the NEPA process, a major challenge is communication and coordination between the state transportation agencies and FHWA, as well as engaging numerous resource and regulatory agencies. In addition, the public and stakeholders must also be represented throughout the decision making process in order for the project to be successful. Clearly defined steps for involvement of the public and agencies are crucial. The identification of a realistic NEPA project schedule, with defined decision points, that incorporates the coordination of the numerous federal and state agencies involved will be necessary to complete this project within a reasonable time frame. To accomplish this, a NEPA project work plan for public and agency involvement will be developed, and the necessary resources will be dedicated by the states to implement the plan. It will identify:

- Major issues for the Tier 1 NEPA document,
- Resource agencies that will be invited to participate,
- Methods and time frames to engage stakeholders,
- Time lines and methodology for agency agreement,
- Meeting schedule,
- Decision and consensus points,
- Dispute resolution and issue elevation methodology,
- Streamlining activities, and
- Identification of stewardship opportunities.

Table 3-1 provides a list of federal and state agencies, as well as MPOs, that may participate in the NEPA process for the project. Other stakeholders are likely to be identified prior to, or during, the NEPA process.

Table 3-1: Potential Participating Agencies

Illinois	Indiana	Missouri	Ohio
Federal Highway Administration			
Illinois Division	Indiana Division	Missouri Division	Ohio Division
State Department of Transportation Districts			
District 7 District 8	Crawfordsville District Greenfield District	Central District Kansas City Area District North Central District Northeast District St. Louis District	District 5 District 6 District 7 District 8 District 11
U.S. Army Corps of Engineers			
Great Lakes & Ohio River Division Louisville District Mississippi Valley Region St. Louis District	Great Lakes & Ohio River Division Louisville District	Mississippi Valley Region St. Louis District Northwestern Division Kansas City District	Great Lakes & Ohio River Division Louisville District Huntington District Pittsburgh District
U.S. Environmental Protection Agency			
Region 5	Region 5	Region 7	Region 5
U.S. Fish & Wildlife Service			
Region 3 Midwest	Region 3 Midwest	Region 3 Midwest	Region 3 Midwest
U.S. Department of Agriculture, U.S. Forest Service			
Region 9 Eastern	Region 9 Eastern	Region 9 Eastern	Region 9 Eastern
U.S. Department of Agriculture, Natural Resources Conservation Service			
Central Region	Central Region	Central Region	Eastern Region
U.S. Coast Guard			
District 8	District 8	District 8	District 8
National Park Service			
Midwest Region	Midwest Region	Midwest Region	Midwest Region
Federal Emergency Management Agency			
Region V	Region V	Region VII	Region V
State Environmental Agencies			
Illinois Environmental Protection Agency Illinois Pollution Control Board	Indiana Department of Env. Management Indiana Department of Natural Resources	Missouri Department of Conservation Missouri Department of Natural Resources	Ohio Environmental Protection Agency Ohio Air Quality Development Authority
Toll Authorities			
Illinois State Toll Highway Authority	Indiana Department of Transportation Indiana Toll Road		Ohio Turnpike Commission
Metropolitan Planning Organizations			
	Indianapolis Terre Haute Madison County	St. Louis Kansas City Columbia	Columbus Dayton Springfield Steubenville/Weirton Wheeling, West Virginia

Source: Wilbur Smith, 2007

3.2.3. Innovative Streamlining

Environmental streamlining accomplishes more than expediting project delivery and enhancing the environment. When done correctly, streamlining can improve the

relationship between federal and state transportation and environmental agencies, as well as relationships with the public. To facilitate streamlining for this project, the states will focus on four areas:

- Project coordination and communication,
- Tiered NEPA document development,
- Public involvement, and
- NEPA/404 merger process.

Project Coordination and Communication

In order to complete the environmental process in an efficient manner, project coordination and communication will be comprehensive and start early. Streamlining the management of a project of this size will require plans, processes, and communication at different levels. A two-tiered interagency partnership approach is proposed for streamlining overall project communication and coordination. The tiered approach will include a single Oversight Committee (OC) for the entire Corridor and an Agency Coordination Committee (ACC) for each state. The OC is focused on multistate coordination, communication, and decision making, while the ACC focuses on intrastate agency coordination, communication, and decision making. Both committees will be charged with maintaining the two-directional flow of information between them.

- **Oversight Committee.** The Oversight Committee coordinates activities, maintains open communication with and between each of the four states, and takes the leadership position on interstate related activities. The proposed make up of the OC will include a representative from the four state DOTs and each of the following federal agencies:
  - The four FHWA divisions,
  - The five U.S. ACOE districts,
  - The two U.S. EPA regions,
  - U.S. Fish and Wildlife Service (FWS),
  - U.S. Department of Agriculture and U.S. Forest Service,
  - U.S. Department of Agriculture and Natural Resources Conservation Service,
  - U.S. Coast Guard (CG),
  - Federal Emergency Management Agency (FEMA), and
  - National Park Service (NPS).

  (Note: The above list is not all-inclusive. Additional members can be added, as appropriate.)

The OC meeting schedule will be driven primarily by project milestones, although frequency of meetings will be maintained to ensure the OC is kept informed and engaged in the project. A combination of in-person and conference call/webcast meetings is proposed.

- **Agency Coordination Committee.** An agency coordination committee will be created in each state for the purpose of maintaining communication and coordination to the agencies within each state. ACC meetings will bring the resource and regulatory agencies to the transportation decision making table, ensuring that all interests have input. Resource agencies will be involved early and often to establish a foundation for consensus and recommendations for action.

  The ACC will consist of federal and state agencies essential for project streamlining. Participation may be different for each state although a core group will be required. The core group will include:

  - FHWA,
  - State DOTs,
  - MPOs, and
  - State natural resource, cultural resource, conservation, air quality and water quality agencies.

  (Note: The above list is not all-inclusive. Additional members can be added, as appropriate.)

  The ACC will report on-going activities to the OC through meeting minutes and common membership participation. A regular meeting schedule will be used, although this schedule will be driven by project milestones and decision points.

- **Committee Guidelines.** It is proposed that both the OC and ACC establish guidelines and clear expectations for roles and responsibilities, and develop written standard operating procedures and a conflict resolution process. The participating agencies will cooperatively develop agreed upon project review time lines. Each agency representative will be expected to approve, in writing, major project decisions/ milestones such as purpose and need, level of data and analysis required, alternative selection, and others. If an agency disagrees with a group decision or feels that a topic needs further consideration, the agency can invoke the conflict resolution process. The conflict resolution process does not stop the NEPA process, but runs parallel, not giving any agency the power to hold the project hostage. The standard operating procedure and conflict resolution process approach will help secure agency involvement and buy-in throughout the process, and reduce conflicts and schedule delays.

Tiered NEPA Document Development

To streamline the NEPA decision making process for the I-70 TOLs, the concept of a tiered NEPA document is recommended as an environmental streamlining action by the states. It is anticipated that one document, a Tier 1 EIS, will be prepared for the overall Corridor, followed by more detailed Tier 2 environmental documents for segments of independent utility within the states. The Tier 1 document will be programmatic, and data will be collected and analyzed on a scale for the entire Corridor. Individual projects will be identified and screened in terms of logical termini, independent utility, and preliminary environmental impacts. Project-specific Tier 2 documents can then be prepared and processed on the smaller segments of independent utility. Construction of the I-70 TOLs for many of the Segments of Independent Utility (SIU) could be done within the existing interstate right-of-way. Therefore, the NEPA documents could be processed as categorical exclusions, providing significant time savings in the project schedule and associated cost savings.

The use of tiered environmental documents to streamline the project development process requires substantial coordination and clear communication between project sponsors and reviewing agencies. The OC would need to agree on what will be determined in the Tier 1 document versus the Tier 2 documents, in addition to agreeing on the degree of detail required in both.

A good example of the success of a tiered document can be seen with MoDOT's existing plan to improve the I-70 Corridor. The Tier 1 document succeeded in getting approval of a general concept, identifying sections with independent environmental documents, and building consensus among the public and agencies for the overall improvement plan. Missouri's experience from this exercise will be of value to all project participants.

- **Tier 1 - Corridor EIS.** Due to the large project area, the preparation of a Tier 1 EIS will be essential in streamlining the environmental process. Not only will the Tier 1 document allow the definition of an overall purpose and need, the elimination of alternatives, and the determination of transportation mode on a corridorwide basis, it will identify potential fatal flaws, resources of major importance, and significant impacts for the entire Corridor. This streamlined approach will provide information in the early stages of the project that will help identify major issues and direct major decision making. The decisions made during the Tier 1 EIS to secure agency buy-in at milestones and a consistency in priorities for all Tier 2 documents. Significant issues identified during the Tier 1 process could include air quality conformity, wetlands, protected species, farmland, induced impacts, and others. The issues will be reviewed

For many sections of the I-70 TOLs, construction could be done within the existing interstate right-of-way without significant environmental impact.

Processing NEPA documents as Categorical Exclusions would result in a significant time and cost savings.

for major environmental "fatal flaws" identification and documented in a "red flag" summary. The Tier 1 document will also recognize SIUs that will be individually addressed in Tier 2 documents.

- **Tier 2 – Individual Documents.** After the Tier 1 document is complete and the SIUs are determined, the Tier 2 environmental process will begin. Dividing the Corridor into SIUs potentially allows large portions of the Corridor to be processed with a Categorical Exclusion (CE) or an Environmental Assessment (EA) with a Finding of No Significant Impact (FONSI). With the purpose and need, preferred alternative, and transportation mode previously decided in Tier 1, the Tier 2 document can focus on impact analysis for one alternative at the project-specific level. These documents will be responsible for quantifying and disclosing all impacts, and identifying all mitigation commitments.

NEPA Public Involvement

With a project of this magnitude, success cannot be achieved without the support of the public. There are several ways to ensure that the public is involved in the decision making process. It is important to consider that the audience of an environmental document includes the public, as well as agencies. Striving to be as reader-friendly as possible, both the Tier 1 EIS and Tier 2 documents will be prepared following the guidelines in AASHTO's *Improving the Quality of Environmental Documents*.

Awareness for the project will be raised with newsletters, flyers, newspaper articles, signs, a speaker's forum, and other forms of communication. While these forms of communication can be effective for a small project area, it will be a difficult undertaking to implement across four states. A Web site for this project will allow the public from all four states access to the project status, latest information, and public meeting schedules. The Web site will give stakeholders a forum to express their opinions and ask questions about the project. A telephone hot line will also be provided. The hot line will provide updated information and allow the user to provide comments, ask questions, and request additional information.

NEPA/404 Merger Process

The NEPA/Section 404 merger permit process was initiated to streamline project decision making on federal aid highway projects. The NEPA and Section 404 processes both involve the evaluation of alternatives and impacts to resources, and balancing resource impacts and project need. The NEPA/404 merger process will be proactively utilized to improve the efficiency of the FHWA NEPA process through early and active interagency coordination. The two-tiered approach provides for project decision making and early and active agency coordination at the individual state project level through the ACCs, and at the multistate level through the OC.

3.2.4. Exceptional Stewardship

Environmental stewardship encompasses more than making decisions not directly harmful to the environment. Stewardship encourages choices that not only avoid or minimize adverse impacts, but may also enhance the environment. These choices encourage public support and protect valuable resources.

To facilitate environmental stewardship in concert with environmental streamlining for this project, the states will focus on three areas:

- Mitigation and enhancement,
- Detailed benefits of TOLs, and
- Executive Order (E.O.) 13274 designation.

Mitigation and Enhancement

Projects related to facilities on existing alignments often provide little opportunity for avoidance and minimization. Similarly, should mitigation be required, these projects are often not located within areas that present the best opportunities for environmental stewardship and ecological gain. Positive opportunities can be permanently lost when the traditional, site-specific approach to avoiding, minimizing, reducing or compensating impacts is used. As part of the interagency partnership process, use of the "Eco-Logical" approach is recommended, as described in FHWA's "Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects." Using Eco-Logical's proposed approach, agencies can collaborate, share resource data and plans, and agree on the location of ecologically important areas and the important resources within the larger geographic area. Eco-Logical suggests a method for achieving an ecosystem approach that expects agencies to work together and with the public to integrate their respective plans to determine environmental priority areas. With priorities understood, mitigation options can be explored where impacts are unavoidable.

In order to ensure that the mitigation commitments and enhancements recommended in an environmental document for a project are met, the Indiana Department of Transportation uses a Mitigation Memo (MM). The MM, which can be adapted for the I-70 project, includes the mitigation chapter from the environmental document, a design summary to show how environmental commitments and enhancements are to be implemented, and the Fish and Wildlife review form which documents stream-related restrictions and special provisions. The MM is a reminder for designers and land acquisition personnel to include all required and special provisions for a project.

In order to manage resource agency, stakeholder and public expectations, it is proposed that project-related enhancements be limited to a predetermined percent of the construction costs.

Detailed Benefit Analysis of TOLs

All environmental documents discuss the benefits expected from that project's completion. In addition to this discussion, a more detailed benefit analysis will be conducted in both the Tier 1 and Tier 2 documents in order to demonstrate how a project of this size can actually enhance the environment. A detailed discussion of the benefits of congestion reduction and TOLs will aid in gaining public support for such a large project. The discussion will include, but not be limited to, reduced emissions from motor vehicles; movement of truck-associated noise to the median, further from adjoining development; reduced fuel consumption; improved comfort for passenger vehicle operators; fewer accidents; more efficient freight movement; and induced economic development associated with freight producers and users. This discussion is intended to increase understanding of why the states are pursuing the project, resulting in project buy-in by agencies, stakeholders, and the general public.

Missouri: within one year (2007-08) for reevaluation of existing approved Tier 2 documents

Missouri MPO areas, Illinois, Indiana, Ohio: 24 to 30 months to complete the Tier 1 NEPA document. (2007-2009)

Tier 2 NEPA Documents: Time for the sections range from 18 months for a CE document to 48 months for an EIS/ROD (2010-2014)

Approval of all Tier 2 NEPA documents would not be required prior to beginning construction on individual SIUs.

E.O. 13274 Designation

The states will request that the I-70 TOLs project be added to the U.S. Secretary of Transportation's list of high priority transportation projects under E.O. 13274, "Environmental Stewardship and Transportation Infrastructure Project Review." This designation will provide an emphasis on expedited reviews and permits by federal agencies.

3.2.5. Proposed Time-Line for Environmental Studies

It is estimated that Missouri could complete the reevaluation process for the Tier 2 NEPA documents within nine to 18 months. Concurrently, Missouri would also initiate NEPA documents in the MPO areas of Kansas City and St. Louis. At the same time, the Tier 1 NEPA document would be initiated for the rest of the I-70 Corridor in Illinois, Indiana, and Ohio concurrently with the feasibility analysis discussed in **Section 3.1.2**. While it is recognized that this concurrent preparation of the feasibility analysis and the Tier 1 NEPA document is not without risk, the potential for cost savings is large due to the time reduction from the schedule and negating future construction cost increases. It is estimated that this Tier 1 NEPA document could be completed in 24 to 30 months. After approval of the Tier 1 document, Illinois, Indiana, and Ohio would initiate Tier 2 NEPA documents, which would take 12 months for a CE document, 30 months for an EA/FONSI, and 48 months for an EIS/ROD.

3.2.6. Other Examples of Environmental Stewardship/Streamlining

During the research that was completed for this application process, other states' successful environmental streamlining and stewardship practices were reviewed. Specific environmental practices that may present an opportunity for the I-70 TOLs are included in **Appendix C**. If this application is selected and funded, these "successful practices" and those of the participating states will all be evaluated in detail and applied to the project as applicable.

3.3. PLANNING LEVEL COST ESTIMATES

Without a completed environmental analysis and final design concept, it is difficult to speculate, let alone calculate, the potential cost of constructing TOLs on the full I-70 Corridor. However, without any idea of the magnitude of the cost to construct, evaluating the feasibility of the project and financing options will also be unrealistic.

Planning level cost estimates for constructing truck only lanes for the Corridor are presented in **Table 3-2** below. The estimates include urban and rural segments, and consider both the options of bypassing major urban areas and continuing through major urban centers. The calculations are presented in **Appendix D**. These estimates do not include any of the other strategies to be incorporated that are discussed in **Section 2.3** of this application, or "Freight Movement of the Future" concepts that may arise out of partnering sessions with freight system users as described in **Section 2.2**.

Table 3-2: Planning Level Cost Estimates TOLs

State	2007Cost With Bypass	2007 Cost Without Bypass	2020 Cost With Bypass	2020 Cost Without Bypass
Missouri	$4,591,000,000	$5,761,000,000	$7,830,000,000	$9,825,000,000
Illinois	$3,294,000,000	$2,953,000,000	$5,618,000,000	$5,036,000,000
Indiana	$3,374,000,000	$3,803,000,000	$5,754,000,000	$6,486,000,000
Ohio	$7,441,000,000	$8,093,000,000	$12,690,000,000	$13,802,000,000
Total	$18,700,000,000	$20,610,000,000	$31,892,000,000	$35,149,000,000

Source: Wilbur Smith Generated Table, see Appendix D for details

I-70 TOLs Assumptions

In general, estimates were calculated based on Missouri DOT's experience in advancing the project and published research funded by the Federal Highway Administration (FHWA) as part of the Highway Economic Requirements System (HERS) program. The primary reference source for the Corridor in the St. Louis area, Illinios, Indiana, and Ohio, is the report, Improvement Cost Data-Final Draft Report (HERS Report), issued April 2005. The following assumptions were made in estimating the costs to construct:

1. Assumed two TOLs in each direction for the entire corridor.
2. Assumed all bypasses were eight lanes, including four new truck only lanes.
3. Assumed added lanes are done so without resurfacing or reconstructing existing lanes. This value is the most conservative of the potential lane additions, besides on new alignment, according to the HERS Report.
    - The independent Missouri cost estimate assumes one set of the existing lanes will be reconstructed and the other set will be rehabilitated.
4. Assumed separate truck and passenger vehicle interchanges, concepts shown in **Figures 2-5** and **2-6**, at major crossing routes with combined access utilizing slip ramps as shown in **Figure 2-7**, for the remaining interchanges.
5. The costs of each interchange are listed in **Appendix D**.
6. The per lane-mile cost in the HERS Report, listed in **Appendix D**, includes CE, PE, and ROW costs
    - ROW equals approximately 40 percent of the roadway only costs for the urban segments and 4% for the rural segments.
    - A ROW cost of 70 percent of the roadway costs was used for Ohio's estimate. This percentage was used at Ohio DOT's request due to their recent experience in real estate damages, residential/business relocation, and utility relocation.
7. The costs per lane mile are 2002 values so a 5 percent annual inflation rate was applied to extrapolate 2007 costs.
8. The year 2020 is estimated to be the mid-construction year so the costs were inflated at the following rates:
    - 2008: 5.5 percent,
    - 2009: 5.0 percent,
    - 2010 through 2020: 4.0 percent.
9. The price of each weigh station was taken from the independent Missouri cost estimate. The number of weigh stations was estimated by Wilbur Smith Associates.

3.4. INNOVATIONS IN PROJECT DELIVERY AND FINANCE

As discussed in **Section 2.4** of this application, TOLs on I-70 provide economic and safety benefits within its four state corridor. These benefits include improved goods movement, reduced congestion, and safer roadways. While the direct beneficiaries are those areas within the Corridor, the project generates broader regional and national benefits. These benefits cannot begin accruing until the project is completed. In order to accomplish this, it will be necessary to utilize the most innovative delivery mechanisms to deliver the project in an efficient manner and develop a financial structure that balances the

public policy objectives of the four states with the fiscal reality of modern transportation finance.

Traditionally, the delivery of transportation projects is tied to the ability to fund the improvements. With an estimated 2007 cost of $18 to 20 billion, construction using traditional funding mechanisms will take a significant commitment of available funding and require extensive reprogramming of each of the four states' existing transportation plans. Consequently, completing the I-70 TOLs project through traditional methods would take many more years.

Fortunately SAFETEA-LU and its predecessors created a framework which allows states to expedite the delivery of such projects. The available opportunities include both project delivery innovations and greater funding options.

3.4.1. Innovative Project Delivery

The demand for additional transportation capacity has resulted in state DOTs and FHWA rethinking the traditional design/bid/build approach to project delivery. There is considerable literature that discusses the drawbacks and inefficiencies of the design/bid/build approach. The most common criticisms revolve around a disconnect between the design and construction of a project. When coupled with the requirement to award a contract based on lowest bid, this results in an adversarial relationship among the designer and contractor, instead of fostering an environment where both are working to deliver a project on budget and on time.

In response to these inefficiencies, the public sector transportation agencies began adopting delivery approaches long used by the private sector to both expedite project delivery and provide better budget control. These new approaches have resulted in more efficient and economical ways of delivering transportation projects.

Basic innovative delivery methods currently being employed around the country include:

- **Design/Build (D/B).** Ever increasing budgetary pressure will inevitably put upward pressure on the cost and timing of completing the I-70 TOLs project. One strategy to mitigate this risk is utilization of a design/build contracting process with a single entity to both design and construct segments of independent utility. Projects are often awarded not on the basis of a low bid, but instead on the best value to the state. Such non-price determinations could include schedule, price guarantees, and resources available to commit to the project. Depending upon how the specific D/B contract is structured, a DOT can transfer significant cost and schedule risk to the private sector. It has been proven that this delivery method can reduce the time and money spent on a project. Though listed as an innovative delivery method, design/build

All four states have used design/build authority.

projects are becoming common delivery methods, with 34 states authorizing some form of design/build contracting. All four states within the project corridor have used design/build authorization. However, they do not all have blanket authority. Given the potential cost of the I-70 TOLs project, a D/B approach could help to insulate the four state DOTs from cost overruns and schedule delays.

- **Design/Build/Operate (DBO).** Often overlooked in the discussion of mega-projects is the fact that state DOTs must maintain these projects with little additional funding for their maintenance. In a period when maintenance budgets for existing transportation systems are often inadequate, mega-projects put additional stress on limited long term maintenance dollars. In response to these pressures, states have begun utilizing a design/build maintain approach to project delivery. Also referred to as design/build/operate, DBO projects are identical to D/B projects, with the exception that the private contractor retains responsibility for maintaining the facility for a given number of years. This maintenance responsibility can be as limited as mowing, snow removal, and sign replacement, or it can be expanded to include major rehabilitations. Missouri is currently utilizing this approach for its "Safe and Sound" program, which is a program to improve 800 bridges by 2012. Under a DBO project, the maintenance of the contracted project is the responsibility of the private sector, thus transferring the risk associated with fluctuations in long term maintenance to the private sector.
- **Design/Build/Finance/Operate (DBFO).** Design/build/finance/operate projects are the quintessential public-private partnerships and cover a wide range of projects. While DBFO projects cover a wide range, they always involve the private sector securitizing a project specific revenue stream to finance the project. This delivery method serves to insulate the public sector from the financial risks of a project through the use of project specific financing. While it is commonly thought that DBFOs are limited to toll facilities, this delivery method has been used for projects where the financing is secured by future tax revenues, availability and/or milestone payments, future federal appropriations, shadow tolls, and governmental lease payments. DBFOs provide states with increased financial security by allowing the private sector to utilize more flexible financial structures and vehicles. This project delivery method typically utilizes financing that is non-recourse to the states where the project is located. There is an exception where the state pledges a specific revenue to support the project, in which case the state's exposure is limited to the extent of the pledged revenue. The various revenue types and financial structures will be discussed in more detail in **Section 3.4.2** below.

Multi-state mega-projects, such as the proposed I-70 TOLs project, amplify the risks of project delivery exponentially. Certain risks – political, environmental, right-of-way, etc. – are inherent to such large complex projects. While such risks will most likely remain with the four states within the Corridor, the states will assess means to minimize their respective risk by utilizing innovative project delivery methods, such as the ones listed

above, to transfer design, construction, schedule, maintenance, and financial risk to the private sector.

3.4.2. Innovative Project Finance

Critical to the ability of a state DOT to deliver new transportation capacity is its ability to pay for this new capacity. Funding has always dominated the debate surrounding reauthorizations of the federal highway bill. The focus on funding has become especially acute in today's environment of increasing demand for new capacity, escalating need to maintain the existing transportation infrastructure, and the decreasing value of the Highway Trust Fund in real dollar terms. Exacerbating these factors are escalating project costs as construction prices rapidly exceed overall inflation levels. Together, these factors have created a situation that has resulted in delayed projects simply because funds are not available.

In this new reality, states, with the assistance of FHWA, have developed new and innovative methods of funding new transportation capacity expansions. Though the use of these new innovative mechanisms rely heavily upon existing forms of revenue, the vehicles by which these revenues are securitized to fund new transportation capacity has created an entire tool box of funding options that can be applied to the I-70 TOLs project.

Revenue Sources

One characteristic that all innovative financing mechanisms have in common is the need for a source of revenue to support financing. The sources of revenues have not changed. Almost exclusively, funding for transportation comes from the following sources:

- **Fuel Taxes.** Under SAFTEA-LU the average annual appropriations of federal fuel tax to the four states comprising the project corridor is approximately $4.3 billion. At the state level, fuel taxes form the bulk of the local match required to use federal appropriations.
- **Sales Taxes.** Sales taxes come in many forms and are another source of revenue used to fund transportation projects. Sales taxation is a local or state tax that almost always requires voter approval. Many metropolitan areas have passed dedicated sales tax initiatives to fund specific transportation needs. For example, in Missouri the Senate Transportation Committee proposed a sales tax increase, in part, to fund the expansion of I-70 within the state's borders. It is important to note that sales taxes are used extensively to fund other non-transportation related government purposes. Therefore, the decision to use sales taxes to fund transportation tends to be very local and dependent upon other competing needs.
- **Fees.** States levy certain transportation-related fees such as vehicle registrations, driver's license applications and renewals, overweight/oversize permits, title transfers, etc. Though generally used to fund a state's motor vehicle department, these fees have been pledged as security to help fund specific projects or programs.

For example, the state of Colorado pledged the revenue from a voter approved vehicle registration fee as a dedicated revenue source to help the startup of the E-470 project in the southeastern Denver region. Similarly, the state of South Carolina pledged a portion of its vehicle registration fees to help start its state infrastructure bank.

- **Impact Fees.** Impact fees are levied to pay for infrastructure needed to support changing land use patterns. Generally a property tax, impact fees are most commonly levied by municipalities on land developers to fund surface streets, water and sewer, and schools needed to support population growth. These tend to be very specific to a locality where the costs and benefits can be directly ascertained. There has been limited use of this type of revenue to fund major transportation projects such as the I-70 TOLs. However, impact fees have occasionally been used to fund interchange improvements. If the project is configured to have truck only interchanges, such interchanges could change the land use patterns and characteristics at those interchanges, making the use of impact fees a viable source of funding specific interchanges.
- **Tolls.** Toll revenues collected by state, local, and certain private operators represent an important, although small, portion of the overall revenues available to fund highway investments. Building on provisions in ISTEA and TEA-21, SAFETEA-LU expanded the ability of states to raise revenue from tolls, primarily for new capacity. Since the passage of ISTEA, toll revenues in this country have increased from approximately $3 billion in 1993 to about $6.7 billion in 2004 (the last year in which data is available), an annual increase of 5 percent. Despite these increases, tolls account for only 5 percent of all highway revenue nationally. However, approximately 10 percent of new limited access highway lane miles have been funded with tolls.

  Currently, all four states within the Corridor have tolling facilities in existence: the Ohio Turnpike in Ohio; the Indiana East-West Toll Road (I-90) in Indiana; the Ronald Reagan Memorial Tollway (I-88), the North-South Tollway, the Northwest Tollway, the Chicago Skyway, the Tri-State Tollway in Illinois; and the Lake of the Ozarks Bridge in Missouri.

Tolling Authorities

Tolling authorities exist in three of the four states; however, the authorities are not in a position to impose toll facilities on I-70 without the authorizing legislation being amended or new legislation enacted. An option could be considered for the creation of one encompassing tolling authority that spans the four states. Legislation would have to be enacted that would permit an encompassing tolling authority that crosses state jurisdictions.

All four states within the corridor have tolling facilities in existence.

Value Pricing Unique to TOLs: As described in Sections 2.1 and 2.2, the separation of trucks over the length of the I-70 corridor, in combination with the corridor location, creates some unique opportunities with regard to potential value pricing. There are any number of efficiencies that can be created for trucks by taking passenger vehicles out of the mix. If enough efficiencies can be provided in the right mix, it would be possible to attract some percentage of freight vehicles from other routes as well. The efficiencies would have to be significant enough that truckers and shippers would be willing to pay tolls for these efficiencies, and that those with alternate route options would choose I-70. The right combination of efficiencies would be necessary to maintain and improve upon safety while providing greater efficiency for the movement of freight.

With current day standards and technology, it is not likely that higher design speeds would be enacted in combination with higher load limits and larger/longer vehicles. However, as described in Sections 2.2.3 to 2.2.6, technologies are evolving that would suggest that design be done so as to accommodate all of the above in the future. The separation of trucks in itself will increase safety and allow I-70 average truck travel speeds to improve to equal or exceed those of parallel corridors which now have higher average speeds. With this separation also comes the ability to permit vehicles of larger consistent size over an 800 mile corridor. All of these factors enable varied alternatives for tolling whereby users pay for the ability to utilize Turnpike Doubles or other larger vehicle types, or pay for the ability to carry heavier loads, or pay based upon average travel speed within restrictions, or other options which may be determined in consultation with the trucking industry. The assessment of all such opportunities would by necessity be a very collaborative process with many stakeholders.

Indiana: The Indiana Toll Road has been owned by the Indiana Finance Authority and operated by the Indiana DOT. Last year Indiana entered into a 75-year lease with a private consortium. A legal determination is needed to clarify if the Indiana Finance Authority has the ability to operate toll facilities on I-70 without the authorizing legislation being amended or new legislation enacted.

Missouri: Missouri has a single toll facility. The Lake of the Ozarks Bridge was created pursuant to a statute authorizing the creation of a local transportation corporation. This statue is designed to address local transportation needs and is considered too cumbersome for the I-70 Truck Lane Project. Missouri has recently passed narrow tolling legislation that will allow for the tolling of a new bridge across the Mississippi River between Missouri and Illinois.

FHWA awarded conditional acceptance to Missouri for tolling I-70 within its borders.

Toll Pilot Program: In order for tolls to be used as a funding source for the I-70 TOLs project, it will have to qualify for one of two federal programs that authorize the tolling of interstate highways: the

Interstate Reconstruction and Rehabilitation Toll Pilot Program or the Interstate Construction Toll Pilot Program. Each of these programs authorizes three pilot projects. Missouri has been awarded conditional acceptance for tolling I-70 within its borders as one of the three demonstration projects authorized by the Interstate Reconstruction and Rehabilitation Toll Pilot Program. Missouri DOT has indicated their willingness to extend this conditional acceptance to the other three states within the Corridor, provided it does not delay their efforts.

Financial Mechanisms

In response to the need to alter the traditional way in which transportation facilities have been funded, new financial tools have been created to allow states to expedite the delivery of much needed new capacity. These new financial tools have been developed as a result of provisions within SAFETEA-LU and its predecessor federal legislation. To a certain extent, these innovative financial mechanisms, though codified in federal statutes, have evolved from innovations developed by states to address their respective needs.

Financial innovation is an evolving concept that involves the efforts of states, FHWA, and the adaptive nature of the financial markets. The following is a brief description of the various tools that have been used around the country. Specific application of these financial mechanisms to the I-70 TOLs project will be dependent upon a number of policy, legal and financial factors that have not been fully explored. These tools will be fully evaluated as to their potential to apply to the project as it moves forward. Preliminary plans for financing will be developed for evaluation based on the fiscal constraints and policy objectives of the states within the Corridor.

- **Federal Grant Management Tools.** In recent years, various policies and regulations governing the distribution of federal aid reimbursements for highway projects have been modified to broaden the options for meeting matching share requirements and to provide states with more flexibility in managing how federal funds are utilized. These fund management tools do not increase the total amount of federal aid available to states, but they can help to accelerate construction of certain projects (which limits exposure to cost escalation) and may enable states to reallocate funds that otherwise will have been used to provide the non-federal match.
- **Grant Anticipation Revenue Vehicles.** Grant Anticipation Revenue Vehicles, referred to as GARVEEs, allow states to borrow against future federal appropriations. The distinguishing feature of GARVEEs is that states can borrow against appropriations that will be contained in future federal highway bills that have not been passed. GARVEEs could allow the four states within the I-70 TOLs Corridor to expedite funding of the project as a single project, instead of undertaking the project on a piecemeal basis as funds become available.
- **Section 129 Loans.** Pursuant to Section 1012 of ISTEA, certain state loans to transportation projects became eligible for reimbursement from federal aid highway

funds. By utilizing this provision states could essentially recycle federal aid highway funds by lending them out, obtaining repayments from project revenues, and then reusing the repaid funds on other highway projects. Pursuant to Section 129(a)(7) of Title 23, states can use funds from their annual apportionments to make loans to public and private sponsors of any federal aid highway project. The project sponsor must pledge non-federal revenues from a dedicated source of funding, such as tolls, excise taxes, sales taxes, property taxes, motor vehicle taxes, and other beneficiary fees. For the four states within the Corridor, Section 129 loans provide a mechanism for them to stretch their annual apportionments by lending it to the project and then using the repayment to fund additional investments in either the project or within the states' transportation system. Further, Section 129 loans can be used to fund the upfront developmental costs of the I-70 TOLs project, subject to repayment from the permanent project financing.

- **State Infrastructure Banks.** The use of federal aid to fund loans that can be relent was codified through State Infrastructure Banks. Federal law authorizes SIBs for all states. Creation of a SIB requires a cooperative agreement with the Secretary of Transportation to establish infrastructure revolving funds using federal transportation funds authorized for fiscal years 2005 to 2009. SIBs provide an opportunity to leverage federal and state resources by lending rather than granting federal-aid funds, and they can be used to attract non-federal public and private investment.

  Of the four states located within the corridor, Indiana, Missouri, and Ohio have active State Infrastructure Banks.

  Of the four states located within the Corridor, Missouri, Indiana, and Ohio have active SIBs. Ohio's SIB is one of the most active in the country, having lent more than $200 million.

  Not all SIBs are structured funded with federal grants and state match. Some states, such as Arizona and South Carolina, capitalized their SIBs through the tax-exempt bond market. These funds are then used to fund projects and the loan repayments are used to retire the debt that has been issued, rather than being recycled into a "second round" of project loans.

- **Transportation Infrastructure Finance and Innovation Act (TIFIA).** The TIFIA program provides federal credit assistance to nationally or regionally significant surface transportation projects, including highway, transit, and rail. This program was established to leverage substantial private co-investment by providing projects with supplemental or subordinate debt. SAFETEA-LU authorizes a total of $610 million through 2009 to pay the subsidy cost of supporting federal credit under TIFIA. TIFIA has proven an effective tool helping deliver transportation facilities. If the I-70 Truck

Only Lane project is funded through a project finance structure, it is highly likely that such financing will utilize TIFIA debt in its financial structure.

- **Private Activity Bonds (PABs).** Private Activity Bonds allow tax-exempt debt to be used by private entities to help finance qualified facilities. PABs are governed by Section 142 of the Internal Revenue Code. SAFETEA-LU classified highway facilities and surface freight transfer facilities to a list of other activities eligible for tax exempt facility bonds. Qualified projects, which must already be receiving federal assistance, include surface transportation projects eligible under Title 23, international bridge or tunnel projects for which an international entity authorized under federal or state law is responsible, and facilities for the transfer of freight from truck to rail or rail to truck (including any temporary storage facilities related to the transfers). These bonds are not subject to the general annual volume cap for private activity bonds for state agencies and other issuers, but are subject to a separate national cap of $15 billion. Transportation PABs are relatively new financial tools. Texas was the first state to receive an allocation of PABs, but to date there has been no issuance of PABs for a transportation project. With the award of the 121 project in Texas, it is expected that more will become known about this innovative financial tool, and it will be used to fund a transportation project.
- **Pass-Through Financing, Availability Payments, or Shadow Tolls.** These financings are based on a state's willingness to reimburse a concessionaire or contractor for the cost of a project based on certain measurable standards. Texas has recently entered into a Pass-Through Financing, or shadow toll, agreement for a project located in El Paso where the state reimbursement will be based in large part on the number of vehicles that use the new facility. Florida is selecting a private concessionaire to design, finance, build, operate, and maintain a $1.5 billion tunnel to the Port of Miami, where the concessionaire will be compensated through annual "availability payments" based on various performance standards. The key to this funding mechanism is the revenue source pledged by the public sector.
- **Equity Capital.** The introduction of private equity into transportation finance is the most significant change in the U.S. transportation markets. Long term equity allows increased debt coverage for any given level of revenue. This increased coverage improves the credit worthiness of project debt. This is especially important during the early years of operations for a new facility when traffic patterns have yet to be established. Sources of these equity funds include overseas companies in the specific business of owning and operating transportation assets, plus U.S. and international financial firms which have the ability raise and manage large amounts of equity capital.
- **Long-Term Leases of Existing Assets.** Public transportation authorities have leveraged various property assets to generate incremental cash or in-kind goods and services for many years. A more dramatic development in recent months involves the

long-term lease of existing toll facilities in exchange for upfront cash payments and/or a share of future project revenue. A private concession company paid the City of Chicago $1.83 billion in January 2005 for the right to operate the Chicago Skyway for 99 years. In January 2006, that same consortium submitted the winning bid of $3.85 billion for a 75-year lease of the Indiana Toll Road. The Commonwealth of Virginia received $603 million in June 2006 for a 99-year lease of the Pocahontas Parkway. The negotiated concession agreement for that project includes a provision for sharing revenue with the Virginia Department of Transportation (VDOT), if certain conditions are met and it allows VDOT to terminate the concession after 40 years upon payment of certain costs. Within the Corridor, Indiana has already leased its major toll asset, the Indiana Toll Road. Illinois and Ohio have assets that could be leased in a similar manner. However, recent attempts to lease all or a portion of the Harris County Toll Road Authority's system in Houston, and on-going discussions to lease the Pennsylvania Turnpike and the New Jersey Turnpike, have identified significant political hurdles that need to be overcome.

Public Private Partnerships

Though neither a delivery method nor a financing method, public-private partnerships (3Ps) combine elements of both. 3Ps are essentially business arrangements between the public and private sectors where various risks traditionally retained by the public sector are transferred to the private sector. These risks can include construction cost risk, schedule risk, financial risk, revenue risk, and operational risk. The specific combination of transferred risk is both dependent upon the specifics of a project and the public policy objectives of the state DOT. One of the very unique potential benefits of a 3P is the ability to utilize more flexible financial structures that utilize private equity.

There are currently 25 states that have some form of 3P legislation. Within the Corridor, Missouri and Indiana have limited 3P authority. While 3Ps could prove to be a useful tool in the delivery of the I-70 Truck Only Lane project, authorizing legislation would need to be passed in each of the four states.

3.5. PROPOSED PROJECT TIME-LINE

The timeline for completion of the I-70 Corridor will vary depending on the development and financing options chosen by each state. In addition to some joint feasibility studies, Missouri, Illinois, Indiana, and Ohio will likely implement their own studies to determine feasibility, analyze financing options, and obtain environmental clearance for their sections of the I-70 Corridor.

Missouri has already received Tier 2 records of decisions for the I-70 segments from approximately two miles east of US-40 in St. Louis to I-470 in Kansas City. MoDOT has started a Tier 1 EIS for the remaining portions of I-70 in Kansas City. A reevaluation for the segments already environmentally cleared will be required to assess the potential for adding dedicated truck lanes, tolling and public-private partnerships. This reevaluation

should not be complex, given that the originally cleared footprint will allow for a truck only lane concept.

Ohio, Indiana, and Illinois have not initiated environmental clearance on any segments within their states as it relates to the potential for truck only lanes. Each of these three states will perform a feasibility study prior to determining subsequent process steps (such as the potential for 3Ps and tolling legislative initiatives and environmental clearance). The completion of these feasibility studies will help in assessing the viability of the various financing options, determining priority along the Corridor, and refining the project timeline for completion.

Figure 3-3 illustrates the proposed timeline for the completion of a TOLs project on the I-70 Corridor. Missouri is currently three to five years ahead of the other three states because of the work already done to obtain environmental clearances on much of I-70. The timeline allows for the potential for 3Ps and tolling as financing options by allotting time for the needed legislative actions for each. It is likely that without the implementation of these initiatives, and without high priority construction funding, the final build out date could go well beyond 2025. As shown in the timeline, Missouri is unique in that the ability to toll I-70 must be approved by a vote of the people. It is anticipated that this will take two years. It is assumed that the legislative process for 3Ps and tolling will take two to three years in the states of Ohio, Indian, and Illinois. It is estimated that the 3Ps procurement and contracting processes will take approximately three years for all four states, of which one year is estimated in acquiring the financing.

Schedule Accelerators

Financing will most likely drive the schedule for the completion of the I-70 TOLs Corridor. Traditional funding for a project of this size would likely take decades to complete, as it would require a significant commitment of the states' available resources spread out over many years. **Section 3.4** illustrates various finance options for the construction and maintenance of this facility. An influx of funding from a private entity as part of a DBFO will be the quickest completion scenario and would save many dollars in construction cost inflation. This option would require tolling for recapture of investment made by the private sector. A public tolling authority could also be created as an alternative to 3P financing. The formation of a public tolling authority is expected to take three to four years and would delay the completion of this corridor as compared to a 3P option. As shown on the timeline, it is estimated that with utilization of a 3P option, construction could be complete along the I-70 Corridor between 2020 and 2025.

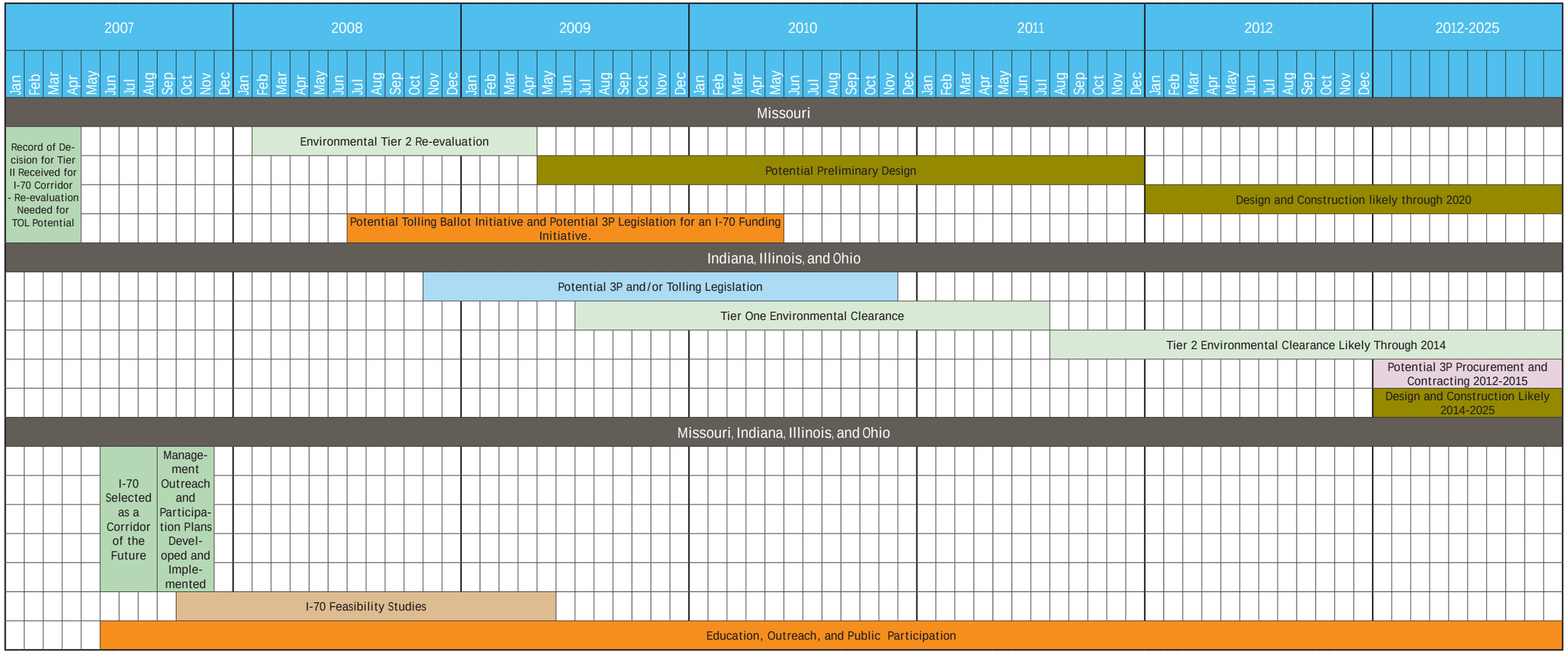
Options exist for 3P financing and are described in detail in **Section 3.4**. Many of these options could be used as schedule accelerators if structured properly.

Other options exist to accelerate schedule and reduce construction costs. Design/build could be utilized with most financing options, and while the schedule does not show design/build, its use would merge the design and construction phases for quicker

construction. For the integration of TOLs within many sections of I-70, the improvements could be made without significant environmental impact or the need for additional right of way. A categorical exclusion could be used for environmental clearance for these sections and would be identified as a part of the Tier 1 analysis. If any of these segments would be a priority for reconstruction or capacity improvements, a quicker environmental CE process would allow for much quicker design and construction than what the timeline illustrates.

The timeline does not allow for phased implementation along the I-70 Corridor. It is likely that a more detailed feasibility study will show the need for truck only lane capacity improvements, most around the metropolitan areas. Following a streamlined Tier 1 environmental evaluation and clearance (as described in **Section 3.2.3**), each state could concentrate their efforts and evaluation of financing options on high priority areas such as these to expedite construction. However, it is recognized that monumental improvements would not be able to capture some of the same financing options that will exist with the proposed multistate dedicated truck lane Corridor.

Table 3-3: Proposed Timeline I-70 TOL


2007
2008
2009
2010
2011
2012
2012-2025
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Missouri
Record of Decision for Tier II Received for I-70 Corridor - Re-evaluation Needed for TOL Potential
Environmental Tier 2 Re-evaluation
Potential Preliminary Design
Design and Construction likely through 2020
Potential Tolling Ballot Initiative and Potential 3P Legislation for an I-70 Funding Initiative.
Indiana, Illinois, and Ohio
Potential 3P and/or Tolling Legislation
Tier One Environmental Clearance
Tier 2 Environmental Clearance Likely Through 2014
Potential 3P Procurement and Contracting 2012-2015
Design and Construction Likely 2014-2025
Missouri, Indiana, Illinois, and Ohio
I-70 Selected as a Corridor of the Future
Management Outreach and Participation Plans Developed and Implemented
I-70 Feasibility Studies
Education, Outreach, and Public Participation

CORRIDORS OF THE FUTURE
PHASE II APPLICATION

SUMMARY AND CONCLUSIONS

SUMMARY AND CONCLUSIONS

The I-70 Truck-Only Lanes (TOLs) Corridor represents an innovative vision for the future of interstate travel. Our application has presented why there is a clear need for the project; why dedicated TOLs are the clear solution to the problems of congestion, safety, and economical freight movement; and what actions we will take as our path to successful Corridor development.

The Missouri, Illinois, Indiana, and Ohio I-70 TOLs Corridor project:

- Is designed to reduce congestion by providing improved mobility and the efficient flow of goods on one of our nation's most critical trade corridors;
- Provides a length that can support unprecedented opportunities for commerce and improved efficiencies in the trucking industry;
- Provides design and operating amenities that will attract long-haul trucking from other congested parallel routes;
- Improves the safety and quality of life for all U.S. citizens and commodities carriers traveling through the heart of the nation;
- Will incorporate innovative financing, project delivery, and environmental streamlining to quickly advance the project;
- Represents both a length, through four states and approximately 800 miles, and a path, crossing both urban and rural locations, that provide a realistic demonstration of an innovative concept that could set the standard for future interstate freight corridors;
- Is consistent with the trucking industry's position as in their letter of support provided in **Appendix A**, on the need for new roadway capacity; and
- Can provide a testing ground for new evolving trucking technologies, electronic traffic management, and freight movement that have not yet been conceived.

The I-70 dedicated TOLs Corridor project is truly a corridor project that is needed. It is a clear solution whose time has come. The Missouri, Illinois, Indiana, and Ohio DOTs are committed to serving the transportation, trucking, manufacturing, retail, and all commercial industries and the citizens of this country, all of whom will benefit by making this vision a reality.

CORRIDORS OF THE FUTURE
PHASE II APPLICATION

APPENDIX A: LETTERS OF SUPPORT

AMERICAN TRUCKING ASSOCIATIONS
2200 Mill Road ★ Alexandria, VA ★ 22314-4677
(703) 838-1700 ★ www.truckline.com

Driving Trucking's Success

April 26, 2007

Mr. James D. Ray, Chief Counsel
Federal Highway Administration
400 Seventh Street S.W.
Washington, D.C. 20590

RE: Phase 2 Application requesting designation as a "Corridor of the Future"
I-70 Dedicated Truck Only Lanes Project

Dear Mr. Ray:

We, the undersigned organizations, support the ongoing research associated with the Interstate 70 Corridors of the Future application submitted by Missouri, Indiana, Illinois and Ohio. We believe that the projected growth in freight demand – in addition to passenger vehicle travel growth – on major freight corridors such as I-70 will likely require additional lane capacity. Due to the growth of truck traffic on this corridor, dedicated truck lanes might be justified, and we encourage further exploration of this concept.

Separating passenger and commercial vehicles will likely produce other benefits. For example, the different operating characteristics of cars and trucks, including their speed and maneuverability, sometimes create conflicts that put the safety of both vehicles in jeopardy. Creating a more uniform flow of traffic will reduce these conflicts and cut down on the number of accidents in the corridor. Furthermore, vehicle separation creates the opportunity for operation of more productive vehicles, such as those currently operating on various Eastern and Midwestern turnpikes. Increasing commercial vehicle productivity is vital to the success of the project.

We also support a fair and open analysis of funding options that is not predicated on a limited number of pre-selected options such as tolling. Market research indicates that proposals mandating use of tolled truck lanes will likely be met with significant public and political opposition. It is instructive to review the process undertaken by Virginia, which recently considered the feasibility of mandatory tolled truck lanes on I-81. The vast majority of comments received opposed truck tolls. Most commenters were not associated with the trucking industry. They were citizens living in the corridor who were legitimately concerned about the economic costs that would be imposed on businesses along the corridor and about the likely diversion of a significant number of trucks to secondary roads. These issues are similarly a concern on the I-70 corridor. Furthermore, because tolling creates a strong incentive for truck drivers to avoid the truck lanes, it is possible that a tolled facility - whether optional or mandatory - will not generate sufficient revenue to justify its construction.

We are excited by the possibilities that might be realized by the I-70 stakeholders, and strongly urge the I-70 COF applicants to consider all funding options, including dedicated increases in fuel taxes, sales taxes, vehicle registration fees and other sources of revenue. ATA may also pursue dedicated funding from new revenue in the next federal highway bill that could be applied to this project, and we look forward to the applicants' support for this effort.

Please let us know if we can be of any assistance as the application process moves forward.

Sincerely,

Tim Lynch
Sr. Vice President, Federation Relations
& Strategic Planning
American Trucking Associations

George Billows
Executive Director
Illinois Trucking Association

Kenny Cragen
President
Indiana Motor Truck Association

Tom Crawford
President and CEO
Missouri Motor Carriers Association

Larry Davis
President
Ohio Trucking Association

CC: Dan Murray, American Transportation Research Institute

600 Broadway, Suite 300
Kansas City, Missouri 64105-1659

816/474-4240
816/421-7758 FAX
www.marc.org

MARC
Mid-America Regional Council

May 22, 2007

Mr. James D. Ray
Chief Counsel
Federal Highway Administration
400 Seventh Street
SW., Room 4213, Washington, DC 20590

Dear Mr. Ray:

The Mid-America Regional Council (MARC) is pleased to offer our support for designation of the Interstate 70 Corridor in the states of Missouri, Illinois, Indiana and Ohio as a "Corridor of the Future".

MARC is the Metropolitan Planning Organization for the greater Kansas City area. We recognize the importance of the I-70 Corridor as critical transportation link for our regional economy and a major artery for intrastate, interstate and international trade in Missouri. We are well aware of the growth in freight and passenger travel demand for this corridor as well as its existing limitations due to aging road and bridge infrastructure and lack of multi-modal facilities.

As stated in our position on the I-70 First Tier Environmental Document developed by the Missouri Department of Transportation and Federal Highway Administration, MARC believes the safety of motorists, the efficient movement of goods and services and the long-term economic benefits for the State of Missouri may require an emphasis on segregating truck and passenger car traffic in the I-70 Corridor. Because of this belief, MARC supports an in-depth review and analysis to determine whether separate, high-speed traffic lanes should be constructed along the existing alignment. MARC further supports the construction of such traffic lanes to be operated as toll facilities, if necessary, to ensure adequate maintenance and repair for the benefit of the shipping and transport industries.

MARC understands that any solutions to the transportation needs in this corridor will be expensive, complex in scope and may require phased implementation over many years. If the I-70 Corridor is designated as a Corridor of the Future, MARC remains committed to work with MoDOT and its partners to plan and develop financially feasible and environmentally sound solutions to meet these growing multi-modal transportation needs. If you have any questions about MARC's position on this matter, please feel free to call me at (816) 474-4240.

Sincerely,

David A. Warm
Executive Director

Copy – Pete Rahn, MoDOT

Chair
Gary Mallory
Presiding Commissioner
Cass County, Mo.

1st Vice Chair
Tom Cooley
Commissioner
Unified Government
of Wyandotte County/
Kansas City, Kan.

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David A. Warm

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Council of Governments

Creating Solutions Across Jurisdictional Boundaries

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Illinois Council of Mayors

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Transportation

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Transportation

Michael Keathley
Missouri Office of Administration

Edie Koch
Illinois Department of Commerce
and Economic Opportunity

Richard LaBore
Metro

Executive Director
Les Sterman

Deputy Executive Director
Maggie Hales

April 16, 2007

Mr. James D. Ray, Chief Counsel
Federal Highway Administration
400 Seventh Street S.W.
Washington, D.C. 20590

Dear Mr. Ray:

The East-West Gateway Council of Governments supports the joint application from the Illinois, Indiana, Missouri, and Ohio Departments of Transportation requesting designation of I-70 across the four states as a "Corridor of the Future." The efficient movement of goods through and within the St. Louis metropolitan area is one of the six focus areas that frame our transportation planning and decision-making process. We are interested in examining, through this project, the potential travel and economic benefits of dedicated truck lanes.

If the designation is approved, our MPO will participate in the planning and public participation processes needed to analyze the dedicated truck lane concept. We encourage US DOT to select I-70, from Ohio through Missouri, as a "Corridor of the Future."

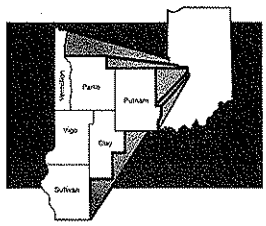
Sincerely,

Les Sterman
Executive Director

Gateway Tower
One Memorial Drive, Suite 1600
St. Louis, MO 63102-2451

314-421-4220
618-274-2750
Fax 314-231-6120

webmaster@ewgateway.org
www.ewgateway.org



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WEST CENTRAL INDIANA
ECONOMIC DEVELOPMENT DISTRICT, INC.

Economic Development, Area 7 Programs on Aging and Disabled,
Transportation Planning
E-mail address: westcentralin.com
Area 7 E-mail address: area7AAD@netscape.net

April 24, 2007

Michael Costello, Pres.
Vermillion County

Harold Rieches, C.P.A., Treas.
Vermillion County

Judy Harris, Sec.
Sullivan County

Ray McCammon, V.P.
Sullivan County

Marcia Jackson, V.P.
Vigo County

Judy Anderson, V.P.
Vigo County

Charlie Brown, V.P.
Clay County

Larry Moss, V.P.
Clay County

Dale Gerrish, V.P.
Parke County

Pat Teague, V.P.
Parke County

Don Walton, V.P.
Putnam County

Darrel Thomas, V.P.
Putnam County

Merv Nolot
Executive Director

Mr. James D. Ray, Chief Counsel
Federal Highway Administration
400 Seventh Street S.W.
Washington, D.C. 20590

RE: Support for I-70 Dedicated Truck Lanes Phase II Application for Designation as a *Corridor of the Future*

Dear Mr. Ray:

As the Metropolitan Planning Organization (MPO) for Terre Haute and Vigo County, we support the joint application from the Missouri, Illinois, Indiana and Ohio Departments of Transportation requesting designation of Interstate 70 through these states as a *Corridor of the Future*. We recognize that the separation of truck traffic from vehicular traffic is a viable strategy to reduce congestion and improve safety in our urban area. We also recognize that providing dedicated truck lanes encourages commerce and economic growth throughout the Midwest.

If Indiana is selected, we will actively support and participate in the planning and public participation processes needed to analyze and advance the concept of dedicated Interstate 70 truck lanes through Terre Haute and Vigo County. We encourage the U.S. Department of Transportation to select Interstate 70, from Missouri through Ohio, as a *Corridor of the Future*.

If you have any questions concerning our support for this project please feel free to contact myself or our Chief Transportation Planner, Ron Hinsenkamp, at (812) 238-1561.

Sincerely,

Melvin J. Nolot
Executive Director

PO Box 359, 1718 Wabash Ave., Terre Haute, IN 47808-0359
Phone: (812) 238-1561 or 1-800-489-1561 Fax: (812) 238-1564
www.westcentralin.com

MPO

In cooperation with the Indianapolis Regional Transportation Council whose members include:

the communities of
Arcadia
Atlanta
Avon
Bargersville
Beech Grove
Brooklyn
Brownsburg
Carmel
Cicero
Cumberland
Danville
Fishers
Franklin
Greenwood
Indianapolis
Lawrence
McCordsville
Mooresville
New Palestine
New Whiteland
Noblesville
Pittsboro
Plainfield
Southport
Speedway
Westfield
Whiteland
Whitestown
Zionsville

the counties of
Boone
Hamilton
Hancock
Hendricks
Johnson
Marion
Morgan
Shelby

and these organizations
Federal Highway Administration

Federal Transit Administration

U.S. Environmental Protection Agency

Indiana Dept. of Transportation

Indiana Dept. of Environmental Management

Indianapolis Dept. of Public Works

Indianapolis Dept. of Metropolitan Development

Indianapolis Public Transportation Corporation-IndyGo

April 30, 2007

Mr. James D. Ray, Chief Counsel
Federal Highway Administration
400 Seventh Street S.W.
Washington, D.C. 20590

RE: Support for I-70 Dedicated Truck Lanes Phase 2 Application for designation as a "Corridor of the Future"

Dear Mr. Ray:

The Indianapolis Metropolitan Planning Organization (IMPO) supports the joint application from the Missouri, Illinois, Indiana, and Ohio Departments of Transportation requesting designation of Interstate 70 through these states as a "Corridor of the Future." We recognize that the separation of truck traffic from vehicular traffic is a viable strategy to reduce congestion and improve safety in our urban area. We also recognize that providing dedicated truck lanes may encourage commerce and economic growth throughout the Midwest.

If selected, our MPO will actively support and participate in the planning and public participation processes needed to analyze the concept of dedicated truck lanes through our urban area. We encourage USDOT to select Interstate 70, from Missouri through Ohio, as a "Corridor of the Future."

Respectfully,

Michael Dearing

Michael Dearing
Manager

The Indianapolis Metropolitan Planning Organization

1821 City-County Building, 200 East Washington Street
Indianapolis, IN 46204-3310
Phone: (317)327-5155 Fax: (317)327-5103
www.indygov.org/indympo

mvrpc
MIAMI VALLEY
REGIONAL PLANNING COMMISSION

One Dayton Centre
One South Main Street
Suite 260
Dayton, OH 45402
Tel: (937)223-6323
Fax: (937)223-9750
TTY/TDD 800-759-0750
www.mvrpc.org

April 6, 2007

Mr. James D. Ray, Chief Counsel
Federal Highway Administration
400 Seventh Street S.W.
Washington, D.C. 20590

RE: Support for I-70 Dedicated Truck Lanes Phase 2 Application for designation as a "Corridor of the Future"

Dear Mr. Ray:

The Miami Valley Regional Planning Commission would like to express its support for the joint application from the Missouri, Illinois, Indiana, and Ohio Departments of Transportation to request designation of Interstate 70 through these states as a "Corridor of the Future." We recognize that the separation of truck traffic from vehicular traffic could be a viable strategy to reduce congestion and improve safety in our urban area. We also recognize that providing dedicated truck lanes may encourage commerce and economic growth throughout the Midwest.

In 1998, the Ohio Department of Transportation in cooperation with MVRPC completed and endorsed the I-70 Major Investment Study recommending improvements to the I-70 Corridor in Montgomery County that included the addition of a third lane to address capacity deficiencies. The lane addition was selected as the preferred alternative primarily due to the large percentage of commercial traffic in the corridor (currently 30 to 50 percent). Sections of I-70 have already been improved or are under construction with the remainder sections being recommended in the form of projects in the Regional Long Range Transportation Plan.

If selected, our MPO will actively support and participate in the planning and public participation processes needed to analyze and advance the concept of dedicated truck lanes through our urban area. We encourage USDOT to select Interstate 70, from Missouri through Ohio, as a "Corridor of the Future."

Respectfully,

Donald R. Spang
Executive Director
Miami Valley Regional Planning Commission

76 East High Street
Springfield, Ohio 45502

937-324-7751
fax 937-328-3940
ccstcc@ci.springfield.oh.us
www.clarktcc.com

CLARK COUNTY-SPRINGFIELD
TRANSPORTATION COORDINATING COMMITTEE

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John W. Sesslar

Vice Chairman
Robert A. Warren

Members
Elmer Beard
Bob Bender
Nancy Brown
Jim Campbell
John Detrick
Kathy Estep
William George
Timothy Gothard
Herbert Greer
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David Locke
Jim Mann
Kevin O'Neill
Matt Parrill
Leo Shanayda
Kent Sherry
Bruce Smith
Geoff Steele
Roger Tackett
Orphus Taylor
Alan Thompson
Marjorie Travis
Sarah Wildman
Paul Wilson

Transportation Director
Thea J. Walsh

May 14, 2007

Secretary, Mary E. Peters
U.S. Department of Transportation
Attn: James D. Ray, Chief Counsel
Federal Highway Administration
400 Seventh Street S.W.
Washington, D.C. 20590

RE: Support for I-70 Dedicated Truck Lanes Phase 2 Application
for designation as a "Corridor of the Future"

Dear Secretary Peters,

In their regular business meeting held on April 13, 2007, the Clark County – Springfield Transportation Coordination Committee (TCC), the Metropolitan Planning Organization (MPO) for the Springfield, Ohio area, the committee voted to support the joint application from the Missouri, Illinois, Indiana, and Ohio Departments of Transportation requesting designation of Interstate 70 through these states as a "Corridor of the Future."

The motion was made by David Hartley, seconded by Nancy Brown, to support the Corridors of the Future Proposal by sending a letter of support the to USDOT.
Vote: Motion approved unanimously.

The members of the TCC recognize that the separation of truck traffic from vehicular traffic is a viable strategy to reduce congestion and improve safety in our urban area. They also recognize that providing dedicated truck lanes may encourage commerce and economic growth throughout the Midwest.

If selected, the TCC will actively support and participate in the planning and public participation processes needed to analyze and advance the concept of dedicated truck lanes through our urban area. We encourage USDOT to select Interstate 70, from Missouri through Ohio, as a "Corridor of the Future."

Respectfully,

Thea J. Walsh

Thea Walsh, Director
Clark County – Springfield TCC

Mid-Ohio Regional Planning Commission
An association of local governments providing planning, programs and services for the region.

April 20, 2007

Secretary Mary E. Peters
U.S. Department of Transportation
Attn: Mr. James D. Ray, Chief Counsel
Federal Highway Administration
400 Seventh Street S.W.
Washington, D.C. 20590

RE: Support for I-70 Dedicated Truck Lanes Phase 2 Application for designation as a "Corridor of the Future"

Virginia Barney
Chair

Michael Cope
Vice Chair

Mark Barbash
Secretary

Chester R. Jourdan, Jr.
Executive Director

Dear Secretary Peters:

Enclosed is a copy of Resolution T-10-07: "Urging the U.S. Department of Transportation to Select 'The I-70 Dedicated Truck Lanes Corridor' Project for the Corridor of the Futures Program", which was passed by the Policy Committee of the Mid-Ohio Regional Planning Commission (MORPC) on April 19, 2007.

Interstate 70 serves as the central, east-west interstate corridor in Ohio, traveling nearly 225 miles across the state. While I-70 carries a substantial amount of daily traffic throughout the entire corridor, the highest traffic concentrations are along the 145-mile segment from I-75 to I-77, through the Central Ohio region.

In our metropolitan region, the I-70 corridor is a vitally important freight and transportation corridor. This corridor typically carry's 15,000 to 21,000 trucks per day and serves intermodal yards, such as the Norfolk Southern (NS) Discovery Park, the NS Buckeye Classification Yard, the CSX Parsons Classification Yard, and the future NS Rickenbacker Intermodal Facility, as well as numerous other freight origins, destinations, and transshipment points.

MORPC supports the joint application from the Missouri, Illinois, Indiana, and Ohio Departments of Transportation requesting designation of I-70 through these states as a "Corridor of the Future." We recognize that the separation of truck traffic from other vehicular traffic is a viable strategy to reduce congestion and improve safety in our urban area as well as improve the reliability of the corridor for moving freight. We also recognize that providing dedicated truck lanes may encourage commerce and economic growth throughout the Midwest.

285 East Main Street
Columbus, OH 43215-5272

Phone: (614) 228-2663

Fax: (614) 228-1904

TDD: 1-800-886-2663
www.morpc.org

If selected, our MPO will actively support and participate in the planning and public participation processes needed to analyze and advance the concept of dedicated truck lanes through our urban area. We encourage USDOT to select Interstate 70, from Missouri through Ohio, as a "Corridor of the Future."

Respectfully,

Chester R. Jourdan, Jr.
Executive Director

CJ:VM:ak

Enclosures

RESOLUTION T-10-07

"URGING THE U.S. DEPARTMENT OF TRANSPORTATION TO SELECT 'THE I-70 DEDICATED TRUCK LANES CORRIDOR' PROJECT FOR THE CORRIDOR OF THE FUTURES PROGRAM"

WHEREAS, the Policy Committee of the Mid-Ohio Regional Planning Commission is designated as the Metropolitan Planning Organization (MPO) for the Columbus Metropolitan Area; and

WHEREAS, the movement of freight and the logistic industry are critical to the economy of the region; and

WHEREAS, MORPC continuously works on freight and logistics partnerships and studies such as the Rickenbacker Intermodal facility, the Heartland Corridor Project, the Ohio Rail Development Commission's Ohio Hub Plan, Inland Port Reports, the Central Ohio Freight Fact Book, the Central Ohio Regional Rail Study, and Ohio Freight Impacts on Ohio Roadway System Study and the Rickenbacker Road Network Development Assessment; and

WHEREAS, in September 2006 the U.S. Department of Transportation requested applications in response to the establishment of a Corridor of the Futures Program, which would accelerate the development of multi-state, and possibly multi-use, transportation corridors to help reduce congestion; and

WHEREAS, the U.S. Department of Transportation selected the "The I-70 Dedicated Truck Lanes Corridor" proposal of the states of Indiana, Missouri, Illinois, and Ohio for advancement to Phase 2 of the Corridor of the Futures Program, one of only 14 selected of the original 38 proposals that were submitted; and

WHEREAS, the I-70 Corridor is a vitally important regional freight and transportation corridor typically carrying 15,000 to 21,000 trucks per day and serving intermodal yards, such as the Norfolk Southern Discovery Park, the NS Buckeye Classification Yard, the CSX Parsons Classification Yard, and the future NS Rickenbacker Intermodal Facility, as well as numerous other freight origins, destinations, and transshipment points; and

WHEREAS, the future NS Rickenbacker Intermodal Facility will leverage investments U.S. DOT is already making in the Heartland Corridor Project, which is designed to improve mobility and increase freight capacity to the major markets of Columbus and Chicago from the Port of Virginia; now therefore

BE IT RESOLVED BY THE POLICY COMMITTEE OF THE **MID-OHIO REGIONAL PLANNING COMMISSION:**

Section 1. That it urges the U.S. Department of Transportation to select "The I-70 Dedicated Truck Lanes Corridor" in its Corridor of the Futures Program.

Section 2. That, if the project is selected, MORPC is committed to assisting the project sponsors with staff time for public involvement and data analysis.

Section 3. That the Policy Committee finds and determines that all formal deliberations and actions of this committee concerning and relating to the adoption of this resolution were taken in open meetings of this committee.

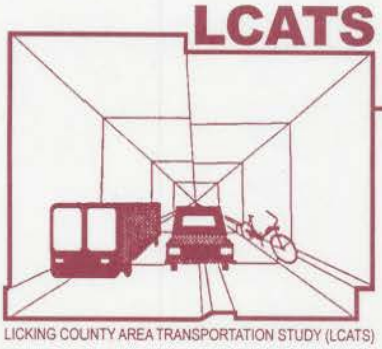
Virginia Barney

Virginia Barney, Chair
MID-OHIO REGIONAL PLANNING COMMISSION

4-19-07

Date

Prepared by: Transportation Staff



LICKING COUNTY AREA TRANSPORTATION STUDY (LCATS)

20 South Second Street, Newark, OH 43055
(740) 670-5190
Fax (740) 670-5197
www.lcats.org

Sandra R. Mapel, P.E.
Technical Study Director

April 12, 2007

Mr. James D. Ray, Chief Counsel
Federal Highway Administration
400 Seventh Street S.W.
Washington, D.C. 20590

RE: Support for I-70 Dedicated Truck Lanes Phase 2 Application for designation as a "Corridor of the Future"

Dear Mr. Ray:

The Licking County Area Transportation Study (LCATS), the Metropolitan Planning Organization for the Newark, Ohio urbanized area supports the joint application from the Missouri, Illinois, Indiana, and Ohio Departments of Transportation requesting designation of Interstate 70 through these states as a "Corridor of the Future." We recognize that the separation of truck traffic from vehicular traffic is a viable strategy to reduce congestion and improve safety in our urban area. We also recognize that providing dedicated truck lanes may encourage commerce and economic growth throughout the Midwest.

If selected, our MPO will actively support and participate in the planning and public participation processes needed to analyze and advance the concept of dedicated truck lanes through our urban area. We encourage USDOT to select Interstate 70, from Missouri through Ohio, as a "Corridor of the Future."

Respectfully,

Jerry Brems

Jerry Brems
Executive Director

Brooke-Hancock-Jefferson
Metropolitan Planning Commission
124 North Fourth Street
Second Floor
Steubenville, Ohio 43952-4498

May 3, 2007

Secretary Mary Peters
U.S. Department of Transportation
Federal Highway Administration
400 Seventh Street S.W.
Washington, D.C. 20590

Attn: Mr. James D. Ray, Chief Counsel

RE: Support for "Corridor of the Future" designation for I-70 Dedicated Truck Lanes Phase 2 Application

Dear Secretary Peters:

The Brooke-Hancock-Jefferson Metropolitan Planning Commission, the designated Metropolitan Planning Organization (BHJMPO) for the Weirton-Steubenville, WV-OH Urbanized Area, supports the joint application from the Missouri, Illinois, Indiana, and Ohio Departments of Transportation requesting designation of Interstate 70 through these states as a "Corridor of the Future." The BHJMPO recognizes that the separation of truck traffic from vehicular traffic is a viable strategy to reduce congestion and improve safety in our area in eastern Ohio and the north panhandle of West Virginia. We also recognize that providing dedicated truck lanes may encourage commerce and economic growth throughout the Midwest.

If selected, BHJMPO will actively support and participate in the planning and public participation processes needed to analyze and advance the concept of dedicated truck lanes through our urban area. We encourage USDOT to select Interstate 70, from Missouri through Ohio, as a "Corridor of the Future."

Respectfully,

James Branagan, President
BHJ Technical Advisory Committee

Michael J. Paprocki
BHJ Transportation Study Director

Phone: (740) 282-3685 **Fax: (740) 282-1821** **Email: bhjmpc@bhjmpc.org**

CORRIDORS OF THE FUTURE
PHASE II APPLICATION

APPENDIX B: CONTACTS WITH NEIGHBOR STATES

suzann

From: suzann [srhodes@wilbursmith.com]
Sent: Friday, April 20, 2007 4:23 PM
To: 'Latkins2@dot.state.wv.us'; 'jsothen@dot.state.wv.us'; 'jritzman@state.pa.us'; 'sgaudio@sha.state.md.us'
Cc: 'SSmith@indot.in.gov'; 'EHays@Indot.in.gov'
Subject: I-70 dedicated truck lanes - Corridor of the Future Application
Importance: High
Attachments: Overview I-70 CoF Application.doc; Phase 1 application I-70.pdf; Fed regs COF.pdf

Dear Mr. Jim Sothen (WVDOT); Mr. Jim Ritzman (PennDOT); and Mr. Gaudio (MDDOT):

Indiana DOT has been invited by USDOT to submit a Phase 2 application to have the I-70 corridor from Kansas City Mo. to the Ohio border near Wheeling, designated as a "Corridor of the Future." The four states participating in the application *(Missouri, Indiana, Illinois, and Ohio)* are proposing to develop dedicated truck-lanes along their portion of the corridor.

INDOT Commissioner Browning and FHWA asked that we contact WV, PA, and MD DOTs to inform them of the application and invite them to participate in the feasibility analysis and project if the corridor is selected.

We are not asking for your commitment - we do want to explain the Corridors of the Future Program and invite you to join us in this endeavor, if the I-70 corridor is selected.

The Corridors of the Future program is part of the National Congestion Initiative. The goal is to identify and help fast track projects on corridor of national significance that will reduce congestion and improve commerce. Fourteen of the 38 submissions in Phase 1 have been invited to submit a Phase 2 application. Only 3-5 projects will be selected for designation. Attached are background materials that provide details on the program. Below are the web links that discuss the program.

Corridors of the Future Program http://www.fightgridlocknow.gov/corridors.htm

US DOT initiative on Congestion http://www.fhwa.dot.gov/congestion/index.htm

Our staff at Wilbur Smith has been contracted to prepare the application and manage the liaison activities for the four participating state DOTs. We look forward to hearing from you relative to your interest in the I-70 submission. I am available at your convenience to discuss the application and the program.

Thank you and have a great weekend.

for INDOT,

Suzann S. Rhodes, AICP
Wilbur Smith Associates
6660 Doubletree Avenue, Suite 18, Columbus, Ohio 43229
w: 614 888-9440 x 242 c: 740 225-2705 f: 614 888-6021
SRhodes@WilburSmith.com
www.WilburSmith.com

CORRIDORS OF THE FUTURE
PHASE II APPLICATION

APPENDIX C: ENVIRONMENTAL STEWARDSHIP

Examples of Environmental Stewardship/Streamlining			
State	**Date**	**Stewardship/Streamlining Practice**	**Summary**
CA		Website for Permitting Agencies and Environmental Groups	Introduced the San Francisco-Oakland Bay Bridge East Span Biological Mitigation Website for permitting agencies and environmental groups. The website includes all biological reports, work plans, permits, and monitoring protocols related to the East Span Project.
CA		Mitigation Monitoring and Reporting Record	MMRR summarizes the environmental commitments to be completed as part of the project. MMRR helps identify specific sections and staff responsible for follow-through to not only get the item into the PS&E but also to make sure the mitigation measure is constructed.
CO		CDOT's Council of Resource Agencies	CDOT created a Council of Resource Agencies (Council) to address project commitments and discuss resource agency concerns prior to a project's construction. High-level personnel from the U.S. Army Corps of Engineers (USACE), EPA, Bureau of Land Management, U.S. Fish and Wildlife Service (FWS), and FS participate on the Council, which holds quarterly meetings with CDOT.
IL	9-Mar-05	Concurrent NEPA/404 Processes and State Implementation Agreement	This SIA commits its signatories to the following: (1) Potential impacts to waters of the United States, including wetlands, in Illinois shall be considered at the earliest practical time in the planning phase of project development. (2) Adverse impacts to such waters and wetlands shall be avoided to the extent practicable and unavoidable adverse impacts shall be minimized and mitigated to the extent reasonable and practicable. (3) Interagency cooperation and consultation shall be diligently pursued throughout the integrated NEPA/404 process to ensure that the concerns of the regulatory and resource agencies are given timely and appropriate consideration and that those agencies are involved at key decision points in project development.
IL	9-Mar-05	Environmental Survey	The Illinois Department of Transportation (IDOT) tracks its project through the environmental survey process using the Project Monitoring Application (PMA) database.
IL	NA	Historic Bridge Memorandum of Understanding	The MOU required the development of a historic bridge survey that consists of a primary and a secondary list identifying all highway bridges in Illinois under IDOT jurisdiction that are eligible for inclusion in, or are already included in, the NRHP. All other highway bridges under IDOT jurisdiction will be considered to have no historic value and may be repaired or replaced without further review.

IL	25-Jul-05	Illinois DOT Wetlands Action Plan and Programmatic Agreement	The programmatic agreement sets up two types of actions: programmatic review and standard review. Programmatic review actions involve impacts to wetlands only in areas where construction is within existing rights-of-way (ROW), or in a new ROW that is contiguous to the existing ROW, where no practicable alternative would avoid adverse wetland impacts. These actions qualify for the minimum wetland replacement ratios (1:1 restoration, 1.5:1 enhancement, and 2:1 preservation) and project-specific coordination with the IDNR is not required. IDOT compensates for these wetland losses on-site, off-site or at a bank. Standard review actions (those that do not qualify for programmatic review) require consultation with IDNR on a project-by-project basis, involve higher wetland replacement ratios (1.5:1 to 5.5:1) and the preparation of conceptual and final compensation plan that are approved by the IDNR.
IL	25-Jul-05	Illinois Establishment of Timeframes for EISs and Eas	All EIS and EA documents initiated after the start of the Federal Fiscal Year 2004 will have negotiated timeframes for the environmental review process. Areas of focus for the timeframe will include good project management, timeliness, project efficiencies, and accountability. The FHWA and IDOT will work together to establish these timeframes. FHWA and IDOT will then provide a copy of the timeframe to the involved environmental review and permitting agencies (e.g., USACOE, USFWS) as part of the early the coordination/scoping process.
IL	9-Mar-05	Programmatic Agreement for the Mitigation of Adverse Effects to Archaeological Habitation Sites	This PMOA covers archaeological sites that are significant and of value chiefly for the information on prehistory or history that they are likely to yield through archaeological, historical, and scientific methods of information recovery. Processing these sites under this PMOA eliminates the need to develop individual Memorandums of Agreement (MOAs) on a project-by-project basis.
IN	1-Mar-07	Delegation of Section 106 Authority to the State DOT	The procedures authorize INDOT and LPAs to initiate Section 106 consultation on behalf of FHWA for projects listed in the INDOT Statewide Project Monitoring System. Required Section 106 documentation can be incorporated into a project's Environmental Impact Statement, streamlining the NEPA process.
IN	1-Mar-07	Environmental Commitments	The following documents are being either developed or revised to reflect this: Indiana Categorical Exclusion Manual, Procedural Manual for Preparing Environmental Documents, Project Development Process Manual, Consultant Review Guideline Manual, Design Manual, Appraising Manual, General Instructions to Field Employees and Construction Memos.
IN	2-Mar-07	Indiana's Categorical Exclusion Manual	The manual was developed to guide INDOT environmental staff, local public agencies, and consultants in the confirmation and preparation of federally funded categorical exclusions and state-funded categorical exemptions and as a scoping tool for EAs and EISs. Standardized forms were developed to provide a consistent process resulting in a more thorough and efficient advancement of projects that are expected to have a minor environmental impact.

IN	2-Mar-07	Indiana's Streamlined EIS Procedures	The procedure was developed to eliminate the duplication of activities between planning studies and the subsequent environmental analysis carried out under NEPA – primarily for projects that require preparation of an EIS.
IN	2-Mar-07	INDOT's Waterway Permits Manual	The manual was developed to provide a background, overview, and overall understanding of waterway permits that might be required for INDOT transportation project in Indiana.
IN	26-Jul-05	NEPA Training for Consultants	INDOT mandates that the consultants working for INDOT become trained and certified by INDOT on unique environmental aspects.
IN	26-Jul-05	Scope/Environmental Compliance Certification/Permit Application Certification	It serves as a checkpoint at four different design stages to assure that the design has incorporated all environmental commitments. This tool certifies that the requisite permits have been acquired and the associated conditions/requirements have been included in the plans, specifications, and estimates (PS&E).
IN	26-Jul-05	Statewide GIS System	INDOT is compiling 170 layers of information commonly used for planning and environmental purposes to create a statewide GIS system.
IN	NA	Streamlined Environmental Procedures	Indiana transportation and resource agencies, assembled as the Environmental Streamlining Task Group, developed Indiana's Streamlined Environmental Procedures to bring the NEPA process into early transportation planning and decision-making. Finalized July 6, 2001, the procedures call for initiating major planning corridor studies as Environmental Assessments (EAs), thus engaging resource agencies in the development of purpose and need and the screening of preliminary alternatives. If the project involves significant impacts, a Notice of Intent is issued to develop an Environmental Impact Statement (EIS). EIS project development then begins where EA project development ended, ensuring a seamless decision-making process. This streamlined process will eliminate duplication of effort between planning and NEPA studies, resulting in more efficient decisions.
IN	NA	INDOT's Environmental Coordinator	An environmental coordinator for non-NEPA compliance is staffed in each INDOT district and is responsible for monitoring compliance within INDOT's operations. This position focuses on applicable regulations protecting resources such as air, water, and soil. It is the responsibility of the environmental coordinator to train construction and maintenance personnel on environmental permitting, regulations, and methodologies to ensure that highways are environmentally "friendly" and conform to all laws and regulations. Likewise, the environmental coordinators assist in developing and undertaking environmental research projects, best management practices, and the establishment of environmental policy. They are also responsible for inspecting construction sites to ensure compliance with permits and mitigation.

IN	NA	Mitigation Memo	A Mitigation Memo is prepared by the INDOT Public Hearings Section, which reviews the six-month letting list to identify projects ready for construction. The Mitigation Memo includes the mitigation chapter of the approved environmental document, a design summary that documents how environmental commitments are implemented in the final design, and the Fish and Wildlife Review Form that documents stream-related restrictions and special provisions. This Mitigation Memo serves as a reminder for project designers and land acquisition and construction personnel to assure that all requisite and special provisions have been included in the final P&E assembly. In addition, the Mitigation Memo notifies construction staff of the commitments they are expected to implement.
IN	NA	Mitigation Commitment Summary	INDOT includes its mitigation commitment summary in NEPA documents and project plans. In addition, INDOT will include the summary in its electronic project tracking system, which will be completed in 2003. By incorporating the summary into the tracking system, INDOT will increase the effectiveness of the summary and support more complete implementation of environmental commitments.
KY		KYTC's Environmentally Sensitive Ethic	KYTC's "Environmental Path," which was officially implemented in February 2003, includes an Environmental Policy that promotes stewardship, leadership, partnering, practice, and commitment as key principles in developing a successful environmental culture throughout the organization. Through this new policy and holistic approach to transportation decisionmaking, KYTC aims to improve training, encourage environmental leadership among KYTC staff, and emphasize CSD/CSS to enhance quality of life. To change how business is done, KYTC focuses on the public and stakeholders and strives to deliver projects in a manner that balances project delivery with sensitivity to the human and natural environment.
MD		Environmental Compliance/Consideration Checklists	Environmental Compliance/Consideration Checklists are prepared for all major projects and summarize all environmental mitigation and project commitments, as well as identify areas that require further study or analysis during subsequent phases of the project.
MO	20-Mar-07	Cobblestone Street Interpretative Park	Archeological investigations of the site revealed that although some of the original road was damaged, much of the road remained in excellent condition. To preserve the remaining portions of the road, stakeholders agreed to develop an “interpretative park” around the site. Damaged portions of the road were repaired with salvaged cobblestones, and the park included not only the road, but incorporated portions of the Old Trails National Highway Bridge.
MO	25-Jul-05	Development of I-70 Website	One website, www.improvei70.org, provides the public with information and the capability to ask questions and provide comments. The other website is interactive and allows authorized users to read project related documents, such as meeting announcements, agendas, and meeting minutes.

MO	25-Jul-05	Interstate 70 First Tier Environmental Impact Statement	Tiering is being used in order to quickly decide whether or not to build a parallel roadway, involve the public in and inform them about project decisions, and address problems before final decisions are made. By evaluating the entire 200-mile corridor in the first tier, environmental issues are identified and are known collectively as opposed to the more limited traditional project approach.
MO	29-Aug-06	Missouri's I-70 Tiered EIS Process - Case Study	In January 2000, MoDOT initiated the I-70 Improvement Study to identify strategies to address the long-term needs of the corridor. MoDOT, along with the FHWA, decided to use tiering to conduct the planning and the NEPA activities to help expedite the study process.
MO	NA	Otter Creek Bridge Airlift	The Iowa National Guard flew a twin-blade Chinook Helicopter from Iowa to Caldwell County, Missouri, picked up the historic 1875 Otter Creek Bridge, and transported it 12 miles to Polo, Missouri, where it is now being preserved and used as a pedestrian bridge on a hiking trail in the local city park.
MO	NA	Pink Mucket relocation, habitat enhancement, and agency coordination	Upon learning that the replacement of the US Highway 61 bridge over the Meramec River would take place in the habitat of the Pink Mucket, an endangered species of freshwater mussel, MoDOT entered into informal consultations with the USFWS. In these consultations, MoDOT and FWS discussed ways that the project's impact could be ameliorated, including relocation options, mussel habitat creation, and a monitoring plan. Because of this early discussion, FWS indicated that formal consultations would not be necessary for this project and that FWS would concur with a MoDOT Biological Assessment that determined that the project would be "Not Likely to Adversely Affect."
MO	NA	Public Participation at the Pendleton Site in Miller County	In addition to developing a public brochure, MoDOT archaeologist invited local citizens to participate in parts of the site excavation process. Over 400 people – including students – participated in excavation activities.
MO	30-Mar-07	Socio-Economic Indicator Resource	MoDOT Socio-Economic Indicator Resource is a joint collaboration between MoDOT and the Office of Social and Economic Data Analysis (OSEDA) to provide up-to-date, authoritative data and information for use in transportation planning and project development. The Indicator Resource Web Page makes available data, maps, tables, charts and graphics and analysis at the level of geography meaningful to MoDOT personnel. Geographic data are divided into the following categories of interest: Missouri Counties, Planning Districts, Regional Planning Commissions, Metropolitan Planning Organizations, and Corridor Studies.
MO	NA	Strategic Total Transportation Plan	In 1997, the Missouri Department of Transportation finalized development and environmental review processes.
NC		Environmental Stewardship Policy	The North Carolina Board of Transportation adopted the Department's first environmental stewardship policy on February 7, 2002. The policy stresses the importance of balancing daily operations and environmental responsibility and strongly encourages employees to incorporate the principles of safety, environmental stewardship, and customer focus into their daily activities.

NJ		NJDOT's Environmental Plan Sheets and Checklists	NJDOT uses both environmental plan sheets and environmental reevaluation checklists to communicate commitments throughout all phases of project development. Instead of writing commitments only in the contract document, NJDOT outlines commitments in environmental plan sheets and includes those sheets directly in project plans. By placing the environmental commitments in its project plans, NJDOT increases the likelihood of meeting environmental commitments. The environmental reevaluation checklist reflects the commitments stated in the NEPA document. The checklist was developed to compensate for the length of time between issuance of the Record of Decision and the acquisition of Right of Way (ROW). NJDOT also uses the checklist for any new or supplemental funding requests for NEPA projects. The checklist contains permit information, agency approvals, Executive Orders for wetlands and floodplains, and an environmental inventory of impacted resources.
NJ		NJDOT's Agreement with USACE	NJDOT is one of two State DOTs in the nation that has an agreement with the USACE to do Section 404 internal permitting for inland freshwater wetland permits (Ohio is the other State DOT with this agreement). Few State DOTs have used this option, as it is resource intensive. However, internal Section 404 permitting does streamline the Section 404 permitting process.
NJ		NJDOT's Memoranda of Agreement	NJDOT has two memoranda of agreement with the New Jersey Department of Environmental Protection (NJDEP) to fund positions in NJDEP's Historic Preservation Office. Interagency funded positions benefit both agencies by guaranteeing that these NJDEP staff positions are dedicated to conducting Section 106 reviews for NJDOT projects and by ensuring that historic preservation is considered during project development.
NY		NYSDOT's Environmental Flow Charts	The FHWA New York Division developed environmental flow charts to outline NYSDOT procedural functions. FHWA has developed 22 flow charts, with each identifying the process attributed to specific issues or phases of project development. For example, the environmental justice flow chart lists relevant Federal laws and guidance documents, defines terms, and explains conditions requiring Federal action.
OH	25-Jul-05	Corridor Studies	The ODOT has two corridor studies: the North/South Transportation Initiative and the Central Viaduct/Inner Corridor Study in Cleveland. Both of these studies integrate planning and environment.
OH	30-Mar-07	Cultural Resources GIS	ODOT formed an innovative alliance with the Ohio Historical Society/State Historic Preservation Office (OHS/OSHPO) to overcome resource constraints to the development of spatial databases. This partnership resulted in the development of a GIS based on MAPIT (Mapping and Preservation Information Technology) software to document over 120,000 Ohio Historic Inventory (OHI) and Ohio Archaeological Inventory (OAI) features, such as individual properties and historic districts listed on the National Register of Historic Places in Ohio.

OH	25-Jul-05	History/Architecture Thematic Review and Table	Both the thematic review and thematic table allow researchers to organize field data and observations in a way that eliminates the need to fill out Ohio Historic Inventory forms on each property. As a result, ODOT can prepare field survey documents quickly and review such documents with the Ohio State Historic Preservation Officer in a timely manner.
OH	NA	Merged Transportation Planning and Environmental Review Project Development Process	ODOT is bringing preliminary engineering, design, and value engineering into the process earlier. ODOT is incorporating more points of communication among ODOT staff, requiring all efforts to begin by considering planning, and removing duplicative processes and efforts by various ODOT staff.
OH	26-Jul-05	ODOT's Programmatic Agreement for Categorical Exclusions	Allow a variety of projects to be processed as low-level, simple CEs rather than requiring preparation of EAs or EISs. This increased flexibility is based on ODOT's past experiences and uses an impact-based approach for analyzing environmental resources rather than processing "typical" projects under a standard document format as in the past.
OH	26-Jul-05	ODOT's Section 4(f) Programmatic Agreement	The programmatic agreement reduces processing time and streamlines approval of Federal actions involving temporary and/or permanent use of right of way from certain properties that are protected under 23 CFR 771.135 Section 4(f).
OH	2-Sep-05	ODOT's Compensatory Mitigation for Impacts to Streams	Primarily driven by water quality and antidegradation requirements, ODOT has been performing compensatory mitigation for impacts to streams since 1998. ODOT's programmatic approach has included several large "pooled" stream mitigation areas created to address impaired waters and high-quality resources in need of protection, which were identified by the Ohio Department of Natural Resources. ODOT has undertaken the restoration of more than 100,000 linear feet of stream in the past 2 1/2 years, along with the preservation of another 116,000 linear feet of priority riparian corridors threatened by development or other concerns.
OH	NA	Programmatic Agreement for Applicability Determination and Programmatic Section 4(f)	The new PA will reduce the Section 4(f) processing time for those Federal actions involving temporary and/or permanent occupation of minor amounts of publicly owned parks, recreation areas, wildlife or waterfowl refuges, or historic sites that are adjacent to existing highways.
OH	NA	Programmatic agreements for CE's and NEPA/404	The Ohio Department of Transportation (ODOT) and the Federal Highway Administration (FHWA) Ohio Division have a NEPA/404 merger process agreement and a liberal programmatic agreement for Categorical Exclusions that is based on project type and level of impact. ODOT is also working on a programmatic agreement for Section 4(f).
OH	NA	Required Training for Staff and Consultants	ODOT trains consultant and employees in discipline specific areas. All training attendees must pass certain tests to receive class credit. In addition to this required training, consultants and employees must have specific experience before they can be pre-qualified to work in related areas.
OH	26-Jul-05	Review of Major Construction Projects Related to Erosion	ODOT employs erosion and sediment consultants to inspect major construction projects in order to pro-actively address problems before erosion can occur.

OH	NA	Section 106 Memorandum of Understanding	A Section 106 memorandum of understanding (MOU) for ODOT maintenance and minor highway projects with no potential to impact historic resources, which reduces paperwork, lists 25 project types or activities that are exempt and require no further review under 36CFR Part 800.
PA		Cultural Resources Section Updates	PENNDOT's Cultural Resources Section has made several changes to their program in the last five years to improve stewardship and streamlining. Archaeologists and architectural historians have been added to each of the five (multi-district) regions to scope projects early on, then follow projects through the Section 106 process and act as liaisons with the SHPO, FHWA, consulting parties, and design team. PENNDOT has established a broad outreach effort that includes a web presence (www.penndotcrm.org), a publication series for both technical and popular audiences, and an annual conference, "Byways to the Past."
TX		TxDOT's Environmental Tracking System	TxDOT's central office has introduced an Environmental Tracking System (ETS) to be used by all of its districts. ETS is part of TxDOT's overall compliance initiative known as Environmental Permits, Issues, and Commitments (EPIC). EPIC helps TxDOT staff ensure that commitments are addressed during project development and implemented through design, construction, and maintenance. ETS is one tool that allows TxDOT districts to track project documentation, comments, surveys, public involvement, interagency coordination, and issues regarding Section 4(f) of the 1966 U.S. DOT Act. ETS also automatically generates a spreadsheet that calculates the estimated timeframe for environmental clearance and ROW acquisition. Each district has a district environmental quality coordinator (DEQC) who is required to perform field and office ROW record reviews on construction and maintenance projects. DEQCs base their reviews on items listed in the EPIC.
TX		TxDOT's Environmental Commitment Checklist	An Environmental Commitment Checklist for construction, maintenance, and facilities projects used by TxDOT's Houston District is now being implemented statewide. This checklist is similar to those used by DOTs in implementing traffic controls in a project. It provides the contractor with a method to operate while implementing and complying with environmental commitments and permit conditions. The checklist offers a yes/no/non-applicable option for specific documentation permits, general conditions, control measures, inspections, water resource compliance, and other environmental requirements. The checklist is used by the DEQC when reviewing projects for compliance with environmental permits, issues, and commitments.

		Western Federal Lands Highway Division	WFLHD is establishing a process to more effectively review and monitor how well environmental mitigation is being addressed in the final design/PS&E approval stage, which occurs just prior to the advertisement for construction bids. The same environmental staff prepare the NEPA documents, carry the mitigation commitments into design, obtain permits as needed, and review the final design plans and specifications. Following this process, a detailed summary of the status of the project's environmental commitments is developed. The same environmental staff also provides field assistance during construction and conducts a post construction review to verify the successful implementation of the mitigation measures.
	Jul-06	Efficient Environmental Reviews for Project Decision-making	The "participating agencies" category was created to ensure that interested agencies have a chance to comment during specific phases of the environmental review process. The lead agency must designate the participating agencies and must also collaborate with them on the development of the coordination plan and the methodology to be used for the alternatives analysis.
	May-06	Environmental Conflict Resolution: Working Together to Make Better Decisions	OMB and CEQ issued a joint Memorandum promoting the use of ECR. The Memorandum directs all Federal departments and agencies to document their ECR planning and implementation efforts in an annual report submitted to OMB and CEQ. Documentation includes an agency self-audit to analyze how ECR may be applied to environmental disputes when they occur, and to plan for increasing institutional capacity for ECR where appropriate.
	Jun-05	Navigating Section 4(f): Updated Policy Paper and New Programmatic Evaluation Now Available	FHWA Updates Its Section 4(f) Policy Paper
SC	Apr-05	South Carolina's Interstate 73 Interagency Partnership	Use of Corridor Analysis Tool, Three-Tiered Approach for Involvement, Development of Negotiated Timeframes, Foster Continued Commitment, Involve Agency Leadership
	Nov-04	Integrated Planning: Working to Combine Different Needs and Strageties	The ecosystem approach is characterized as a method for sustaining or restoring natural systems and their functions and values. Based on a collaboratively developed vision that integrates ecological, economic, and social factors, it is applied within a geographic framework defined primarily by ecological boundaries.
AZ	Dec-03	Facilitated Interagency Coordination in Arizona Leads to Memorandum of Understanding and Operating Agreement	Since 2000, a facilitator has helped the interagency team and its subgroups improve communication, address common areas of concern, and streamline the environmental review and project development process for transportation projects on or near public lands. As working relationships have improved, ADOT, BLM, and FHWA have successfully reduced duplication of work and minimized project delays in the ROW, materials acquisition, NEPA, and abandoned roads processes.

	Jun-03	33 Months or Less: FHWA Study Highlights Common Sense Streamlining	FHWA used the following criteria to select projects as case studies: Projects must have identifiable lessons learned that other states can use. Projects must have had a full EIS prepared and completed. Environmental streamlining measures can make the most difference on EIS projects as they normally take longer than those requiring other levels of environmental documentation. Projects must have completed the EIS process (the time between the issuance of the Notice of Intent and the signing of the Record of Decision (ROD)) in less than three years. FHWA chose this period because it is below the average mean time for EISs for FHWA projects (determined from earlier research) and because a reasonable number of projects that met this time criterion already existed. Projects must have had RODs issued between 1998 and 2000.
MO	Dec-02	Tiering Can Work: Missouri's I-70 Project	The Missouri Department of Transportation (MoDOT) and the Federal Highway Administration (FHWA) Missouri Division are using tiering to address the long range needs of a 200-mile section of Interstate 70 (I-70) in their state. MoDOT chose to use tiering in order to involve and inform the public about project decisions, to address problems before final decisions were made, and to decide promptly whether or not to build a parallel facility. The I-70 tiering process will take approximately four years to complete, rather than the six to seven years complex corridor studies typically take in Missouri.
NC	Jun-02	North Carolina's Solution: Good Mitigation, Faster Permits, Better Water Quality	As an environmental streamlining laboratory, North Carolina will promote environmental stewardship, improve the quality of the state's transportation services and environment, better meet customer needs, and further build trusted partnerships among state and Federal transportation and resource agencies. North Carolina will accomplish these goals by developing and implementing specific tasks and activities focused on the effective and efficient integration of transportation and environmental decision-making. The results of the laboratory will be applicable to future projects. The initiatives developed are integral components of the streamlining laboratory concept and include: Implementing permitting and mitigation process improvements, Expanding the use of Geographic Information Systems technology in project planning, Engaging the public and resource agencies early in the project development process, Using context sensitive design and maintenance strategies.
WA	Feb-02	"One-Stop" Permitting: Washington State's Environmental Permit Streamlining Act	Washington is the first state in the nation to create a new state committee, the Transportation Permit Efficiency and Accountability Committee (TPEAC), with the authority to develop a streamlined, "one-stop" permit process. "This bill will serve as a national model of how government agencies at all levels can coordinate and possibly integrate their individual procedures to give projects thorough reviews, allow full public involvement, and arrive at decisions more speedily."

CORRIDORS OF THE FUTURE
PHASE II APPLICATION

APPENDIX D: COST ESTIMATES

Corridors of the Future Phase II Application
Summary

TOL Total Cost:				
State	**2007Cost With Bypass**	**2007 Cost Without Bypass**	**2020 Cost With Bypass**	**2020 Cost Without Bypass**
Missouri	$ 4,591,000,000	$ 5,761,000,000	$ 7,830,000,000	$ 9,825,000,000
Illinois	$ 3,294,000,000	$ 2,953,000,000	$ 5,618,000,000	$ 5,036,000,000
Indiana	$ 3,374,000,000	$ 3,803,000,000	$ 5,754,000,000	$ 6,486,000,000
Ohio	$ 7,441,000,000	$ 8,093,000,000	$ 12,690,000,000	$ 13,802,000,000
Total	**$ 18,700,000,000**	**$ 20,610,000,000**	**$ 31,892,000,000**	**$ 35,149,000,000**

Missouri TOL Cost:

Segment #	Segment Description	Area Type	Project Type	# of Lanes	Length		
1	Terminus @ I-470						
2	Previously Calc'd. Cost						
3a1	St. Louis Metro	Interstate-Pop 200-1,000K	Add Lanes, Ex Align	4	32		
3a2	St. Louis City Limits	Interstate-Pop > 1,000K	Add Lanes, Ex Align	4	9		
3b	St. Louis Bypass	Interstate-Flat	Add Lanes, New Align	8	50		

Segment #	Type of GPO Interchanges	Type of Truck Access Interchanges	# of GPO Interchanges	# of Truck Interchanges	Roadway Cost	Interchange Cost	Total Segment Cost
1	None	Urban Truck-Reconstruction	0	1	$ -	$ 100,000,000	$ 100,000,000
2	None	None	0	0	$ 3,135,000,000	$ -	$ 3,135,000,000
3a1	Urban GPO-Reconstruction	Urban Truck-Reconstruction	20	2	$ 745,000,000	$ 800,000,000	$ 1,545,000,000
3a2	Urban GPO-Reconstruction	Urban Truck-Reconstruction	12	1	$ 521,000,000	$ 460,000,000	$ 981,000,000
3b	Rural GPO-New	Rural Truck-New	8	2	$ 1,076,000,000	$ 280,000,000	$ 1,356,000,000
					Total Cost w\ Bypass	$ 4,591,000,000	
					Total Cost w\o Bypass	$ 5,761,000,000	

Illinois TOL Cost:

Segment #	Segment Description	Area Type	Project Type	# of Lanes	Length		
1a	MO State Line to Exit 21 (4)	Interstate-Pop 200-1,000K	Add Lanes, Ex Align	4	25		
1b	E. St. Louis Bypass	Interstate-Flat	Add Lanes, New Align	8	55		
2	Exit 21 (4) to Exit 92 (S I-57)	Interstate-Flat	Add Lanes, Ex Align	4	71		
3	Exit 92 (S I-57) to Exit 98 (N I-57)	Interstate-Pop <50K	Add Lanes, Ex Align	4	6		
4	Exit 98 (N I-57) to IN State Line	Interstate-Flat	Add Lanes, Ex Align	4	57		

Segment #	Type of GPO Interchanges	Type of Truck Access Interchanges	# of GPO Interchanges	# of Truck Interchanges	Roadway Cost	Interchange Cost	Total Segment Cost
1a	Urban GPO-Reconstruction	Urban Truck-Reconstruction	10	3	$ 582,000,000	$ 600,000,000	$ 1,182,000,000
1b	Rural GPO-New	Rural Truck-New	8	3	$ 1,183,000,000	$ 340,000,000	$ 1,523,000,000
2	Rural GPO-Reconstruction	Rural Truck-Reconstruction	8	3	$ 551,000,000	$ 240,000,000	$ 791,000,000
3	Urban GPO-Reconstruction	Urban Truck-Reconstruction	3	2	$ 77,000,000	$ 290,000,000	$ 367,000,000
4	Rural GPO-Reconstruction	Rural Truck-Reconstruction	4	2	$ 443,000,000	$ 140,000,000	$ 583,000,000
					Cost of Weigh Stations	$ 30,000,000	
					Total Cost w\ Bypass	$ 3,294,000,000	
					Total Cost w\o Bypass	$ 2,953,000,000	

Indiana TOL Cost:

Segment #	Segment Description	Area Type	Project Type	# of Lanes	Length		
1	IL State Line to Terre Haute (Cassady Rd)	Interstate-Flat	Add Lanes, Ex Align	4	4		
2	Terre Haute (Cassaday Rd. to 46)	Interstate-Pop 50-200K	Add Lanes, Ex Align	4	8		
3	Terre Haute (46) to W. Metro Indy (39)	Interstate-Flat	Add Lanes, Ex Align	4	48		
4a1	W. Metro Indy (39) to I-465	Interstate-Pop 50-200K	Add Lanes, Ex Align	4	13		
4a2	I-465 to I-465	Interstate-Pop > 1,000K	Add Lanes, Ex Align	4	16		
4a3	I-465 to E. Metro Indy (N600W)	Interstate-Pop 50-200K	Add Lanes, Ex Align	4	7		
4b	Indy Bypass	Interstate-Flat	Add Lanes, New Align	8	50		
5	E. Metro Indy (N600W) to Richmond (US-35)	Interstate-Flat	Add Lanes, Ex Align	4	53		
6	Richmond (US-35 to OH State Line)	Interstate-Pop <50K	Add Lanes, Ex Align	4	7		

Segment #	Type of GPO Interchanges	Type of Truck Access Interchanges	# of GPO Interchanges	# of Truck Interchanges	Roadway Cost	Interchange Cost	Total Segment Cost
1	Rural GPO-Reconstruction	None	2	0	$ 32,000,000	$ 30,000,000	$ 62,000,000
2	None	Urban Truck-Reconstruction	0	2	$ 112,000,000	$ 200,000,000	$ 312,000,000
3	Rural GPO-Reconstruction	Rural Truck-Reconstruction	2	3	$ 373,000,000	$ 150,000,000	$ 523,000,000
4a1	Urban GPO-Reconstruction	Urban Truck-Reconstruction	1	1	$ 181,000,000	$ 130,000,000	$ 311,000,000
4a2	Urban GPO-Reconstruction	Urban Truck-Reconstruction	8	3	$ 926,000,000	$ 540,000,000	$ 1,466,000,000
4a3	Urban GPO-Reconstruction	None	1	0	$ 98,000,000	$ 30,000,000	$ 128,000,000
4b	Rural GPO-New	Rural Truck-New	8	4	$ 1,076,000,000	$ 400,000,000	$ 1,476,000,000
5	Rural GPO-Reconstruction	Rural Truck-Reconstruction	4	3	$ 411,000,000	$ 180,000,000	$ 591,000,000
6	Urban GPO-Reconstruction	Urban Truck-Reconstruction	3	2	$ 90,000,000	$ 290,000,000	$ 380,000,000
					Cost of Weigh Stations	$ 30,000,000	
					Total Cost w\ Bypass	$ 3,374,000,000	
					Total Cost w\o Bypass	$ 3,803,000,000	

Ohio TOL Cost:

Segment #	Segment Description	Area Type	Project Type	# of Lanes	Length		
1	IN State Line to Dayton (49)	Interstate-Flat	Add Lanes, Ex Align	4	24		
2	Dayton (49 to I-675)	Interstate-Pop 50-200K	Add Lanes, Ex Align	4	20		
3	Dayton (I-675) to Springfield (US-68)	Interstate-Flat	Add Lanes, Ex Align	4	8		
4	Springfield (US-68 to US-40)	Interstate-Pop 50-200K	Add Lanes, Ex Align	4	10		
5	Springfield (US-40) to W. Metro Col. (142)	Interstate-Flat	Add Lanes, Ex Align	4	23		
6a1	W. Metro Col. (142) to I-270	Interstate-Pop 50-200K	Add Lanes, Ex Align	4	8		
6a2	I-270 to I-270	Interstate-Pop > 1,000K	Add Lanes, Ex Align	4	16		
6a3	I-270 to E. Metro Col. (310)	Interstate-Pop 50-200K	Add Lanes, Ex Align	4	9		
6b	Columbus Bypass	Interstate-Flat	Add Lanes, New Align	8	45		
7	E. Metro Col. 9310) to Zanesville (US-40)	Interstate-Flat	Add Lanes, Ex Align	4	34		
8	Zanesville (US-40 to Pleasant Grove Rd.)	Interstate-Pop <50K	Add Lanes, Ex Align	4	4		
9	Zanesville (Pleasant Grove Rd.) to WV State Line	Interstate-Flat	Add Lanes, Ex Align	4	69		

Segment #	Type of GPO Interchanges	Type of Truck Access Interchanges	# of GPO Interchanges	# of Truck Interchanges	Roadway Cost	Interchange Cost	Total Segment Cost
1	Rural GPO-Reconstruction	Rural Truck-Reconstruction	4	1	$ 306,000,000	$ 172,000,000	$ 478,000,000
2	Urban GPO-Reconstruction	Urban Truck-Reconstruction	7	2	$ 341,000,000	$ 697,000,000	$ 1,038,000,000
3	Rural GPO-Reconstruction	None	1	0	$ 102,000,000	$ 26,000,000	$ 128,000,000
4	Urban GPO-Reconstruction	Urban Truck-Reconstruction	2	2	$ 171,000,000	$ 442,000,000	$ 613,000,000
5	Rural GPO-Reconstruction	Rural Truck-Reconstruction	3	1	$ 293,000,000	$ 146,000,000	$ 439,000,000
6a1	Urban GPO-Reconstruction	Urban Truck-Reconstruction	2	1	$ 137,000,000	$ 272,000,000	$ 409,000,000
6a2	Urban GPO-Reconstruction	Urban Truck-Reconstruction	8	3	$ 1,133,000,000	$ 918,000,000	$ 2,051,000,000
6a3	Urban GPO-Reconstruction	Urban Truck-Reconstruction	2	1	$ 154,000,000	$ 272,000,000	$ 426,000,000
6b	Rural GPO-New	Rural Truck-New	4	5	$ 1,588,000,000	$ 646,000,000	$ 2,234,000,000
7	Rural GPO-Reconstruction	Rural Truck-Reconstruction	6	1	$ 433,000,000	$ 224,000,000	$ 657,000,000
8	Urban GPO-Reconstruction	Urban Truck-Reconstruction	1	1	$ 63,000,000	$ 221,000,000	$ 284,000,000
9	Rural GPO-Reconstruction	Rural Truck-Reconstruction	17	3	$ 879,000,000	$ 646,000,000	$ 1,525,000,000
					Cost of Weigh Stations	$ 45,000,000	
					Total Cost w\ Bypass	$ 7,441,000,000	
					Total Cost w\o Bypass	$ 8,093,000,000	

St. Louis, IL, & IN Interchange Costs		St. Louis, IL, & IN Roadway Costs Per Lane Mile								
			Recon Widen Lanes	Recon Pavt Only	Resurface Widen Lanes	Resurface Improve Shldr	Resurface Pavt Only	Add Lanes, New Align	Add Lanes, Ex Align	Add Lanes, Recon Ex Lanes	Add Lanes, Resurface Ex Lanes
None	$ -										
Rural GPO-New	$ 20,000,000	**Interstate-Flat**	$ 1,182,000	$ 772,000	$ 669,000	$ 325,000	$ 274,000	$ 2,106,000	$ 1,519,000	$ 1,377,000	$ 1,291,000
Rural GPO-Reconstruction	$ 15,000,000	**Interstate-Rolling**	$ 1,325,000	$ 792,000	$ 770,000	$ 376,000	$ 292,000	$ 2,665,000	$ 1,647,000	$ 1,439,000	$ 1,346,000
Urban GPO-Reconstruction	$ 30,000,000	**Interstate-Mountainous**	$ 2,512,000	$ 1,734,000	$ 1,276,000	$ 608,000	$ 432,000	$ 6,003,000	$ 5,128,000	$ 4,480,000	$ 3,611,000
None	$ -	**Other Prin Arterial-Flat**	$ 923,000	$ 618,000	$ 558,000	$ 254,000	$ 220,000	$ 1,742,000	$ 1,217,000	$ 1,096,000	$ 1,018,000
Rural Truck-New	$ 60,000,000	**Other Prin Arterial-Rolling**	$ 1,042,000	$ 635,000	$ 634,000	$ 302,000	$ 245,000	$ 2,103,000	$ 1,303,000	$ 1,151,000	$ 1,086,000
Rural Truck-Reconstruction	$ 40,000,000	**Other Prin Arterial-Mountainous**	$ 2,024,000	$ 1,430,000	$ 1,229,000	$ 421,000	$ 346,000	$ 5,297,000	$ 4,600,000	$ 4,064,000	$ 2,380,000
Urban Truck-Reconstruction	$ 100,000,000	**Min Arterial-Flat**	$ 844,000	$ 543,000	$ 520,000	$ 227,000	$ 195,000	$ 1,553,000	$ 1,106,000	$ 989,000	$ 917,000
		Min Arterial-Rolling	$ 1,019,000	$ 601,000	$ 647,000	$ 269,000	$ 210,000	$ 2,000,000	$ 1,268,000	$ 1,154,000	$ 1,049,000
		Min Arterial-Mountainous	$ 1,693,000	$ 1,110,000	$ 1,229,000	$ 421,000	$ 288,000	$ 4,660,000	$ 3,883,000	$ 3,533,000	$ 2,380,000
		Maj Collector-Flat	$ 889,000	$ 575,000	$ 537,000	$ 240,000	$ 199,000	$ 1,552,000	$ 1,149,000	$ 1,030,000	$ 956,000
		Maj Collector-Rolling	$ 973,000	$ 584,000	$ 604,000	$ 266,000	$ 211,000	$ 1,910,000	$ 1,174,000	$ 1,071,000	$ 991,000
		Maj Collector-Mountainous	$ 1,476,000	$ 914,000	$ 879,000	$ 373,000	$ 288,000	$ 3,247,000	$ 2,486,000	$ 2,268,000	$ 1,633,000
		Interstate-Pop <50K	$ 1,987,000	$ 1,376,000	$ 1,566,000	$ 395,000	$ 334,000	$ 3,360,000	$ 2,493,000	$ 2,391,000	$ 1,916,000
		Interstate-Pop 50-200K	$ 2,136,000	$ 1,388,000	$ 1,620,000	$ 476,000	$ 395,000	$ 4,529,000	$ 2,724,000	$ 2,622,000	$ 2,152,000
		Interstate-Pop 200-1,000K	$ 3,407,000	$ 2,272,000	$ 2,509,000	$ 836,000	$ 530,000	$ 6,643,000	$ 4,559,000	$ 4,479,000	$ 3,051,000
		Interstate-Pop > 1,000K	$ 7,857,000	$ 5,159,000	$ 4,869,000	$ 1,643,000	$ 878,000	$ 14,889,000	$ 11,336,000	$ 11,138,000	$ 7,354,000
		Other Prin Arterial-Pop <50K	$ 1,732,000	$ 1,169,000	$ 1,433,000	$ 342,000	$ 280,000	$ 2,649,000	$ 2,119,000	$ 2,028,000	$ 1,750,000
		Other Prin Arterial-Pop 50-200K	$ 1,853,000	$ 1,183,000	$ 1,498,000	$ 414,000	$ 331,000	$ 3,268,000	$ 2,296,000	$ 2,205,000	$ 1,950,000
		Other Prin Arterial-Pop 200-1,000K	$ 2,647,000	$ 1,734,000	$ 2,192,000	$ 683,000	$ 416,000	$ 4,486,000	$ 3,360,000	$ 3,289,000	$ 2,578,000
		Other Prin Arterial-Pop > 1,000K	$ 5,742,000	$ 3,595,000	$ 4,674,000	$ 1,345,000	$ 672,000	$ 11,377,000	$ 7,845,000	$ 7,631,000	$ 6,703,000
		Min Arterials & Coll-Pop <50K	$ 1,276,000	$ 883,000	$ 1,084,000	$ 250,000	$ 205,000	$ 1,911,000	$ 1,565,000	$ 1,485,000	$ 1,299,000
		Min Arterials & Coll-Pop 50-200K	$ 1,337,000	$ 893,000	$ 1,094,000	$ 288,000	$ 233,000	$ 2,345,000	$ 1,649,000	$ 1,569,000	$ 1,417,000
		Min Arterials & Coll-Pop 200-1,000K	$ 1,800,000	$ 1,194,000	$ 1,496,000	$ 436,000	$ 286,000	$ 3,052,000	$ 2,286,000	$ 2,223,000	$ 1,807,000
		Min Arterials & Coll-Pop > 1,000K	$ 4,531,000	$ 2,972,000	$ 2,263,000	$ 875,000	$ 476,000	$ 9,443,000	$ 7,845,000	$ 7,631,000	$ 4,844,000

Ohio Interchange Costs		Ohio Roadway Costs Per Lane Mile								
			Recon Widen Lanes	Recon Pavt Only	Resurface Widen Lanes	Resurface Improve Shldr	Resurface Pavt Only	Add Lanes, New Align	Add Lanes, Ex Align	Add Lanes, Recon Ex Lanes	Add Lanes, Resurface Ex Lanes
None	$ -										
Rural GPO-New	$ 34,000,000	**Interstate-Flat**	$ 1,940,000	$ 1,267,000	$ 1,098,000	$ 534,000	$ 450,000	$ 3,456,000	$ 2,493,000	$ 2,260,000	$ 2,119,000
Rural GPO-Reconstruction	$ 26,000,000	**Interstate-Rolling**	$ 2,175,000	$ 1,300,000	$ 1,264,000	$ 617,000	$ 480,000	$ 4,374,000	$ 2,703,000	$ 2,362,000	$ 2,209,000
Urban GPO-Reconstruction	$ 51,000,000	**Interstate-Mountainous**	$ 4,123,000	$ 2,846,000	$ 2,094,000	$ 998,000	$ 709,000	$ 9,851,000	$ 8,415,000	$ 7,352,000	$ 5,926,000
None	$ -	**Other Prin Arterial-Flat**	$ 1,515,000	$ 1,015,000	$ 916,000	$ 417,000	$ 362,000	$ 2,859,000	$ 1,998,000	$ 1,799,000	$ 1,671,000
Rural Truck-New	$ 102,000,000	**Other Prin Arterial-Rolling**	$ 1,710,000	$ 1,042,000	$ 1,041,000	$ 496,000	$ 403,000	$ 3,451,000	$ 2,139,000	$ 1,889,000	$ 1,783,000
Rural Truck-Reconstruction	$ 68,000,000	**Other Prin Arterial-Mountainous**	$ 3,322,000	$ 2,347,000	$ 2,017,000	$ 691,000	$ 568,000	$ 8,692,000	$ 7,549,000	$ 6,669,000	$ 3,906,000
Urban Truck-Reconstruction	$ 170,000,000	**Min Arterial-Flat**	$ 1,385,000	$ 892,000	$ 854,000	$ 373,000	$ 320,000	$ 2,549,000	$ 1,815,000	$ 1,623,000	$ 1,505,000
		Min Arterial-Rolling	$ 1,673,000	$ 987,000	$ 1,062,000	$ 442,000	$ 345,000	$ 3,282,000	$ 2,081,000	$ 1,894,000	$ 1,722,000
		Min Arterial-Mountainous	$ 2,779,000	$ 1,822,000	$ 2,017,000	$ 691,000	$ 473,000	$ 7,647,000	$ 6,372,000	$ 5,798,000	$ 3,906,000
		Maj Collector-Flat	$ 1,459,000	$ 944,000	$ 882,000	$ 394,000	$ 327,000	$ 2,547,000	$ 1,886,000	$ 1,691,000	$ 1,569,000
		Maj Collector-Rolling	$ 1,597,000	$ 959,000	$ 992,000	$ 437,000	$ 347,000	$ 3,135,000	$ 1,927,000	$ 1,758,000	$ 1,627,000
		Maj Collector-Mountainous	$ 2,423,000	$ 1,500,000	$ 1,443,000	$ 613,000	$ 473,000	$ 5,329,000	$ 4,080,000	$ 3,722,000	$ 2,680,000
		Interstate-Pop <50K	$ 2,431,000	$ 1,683,000	$ 1,916,000	$ 484,000	$ 409,000	$ 4,110,000	$ 3,049,000	$ 2,925,000	$ 2,344,000
		Interstate-Pop 50-200K	$ 2,613,000	$ 1,698,000	$ 1,982,000	$ 583,000	$ 484,000	$ 5,540,000	$ 3,332,000	$ 3,207,000	$ 2,632,000
		Interstate-Pop 200-1,000K	$ 4,167,000	$ 2,779,000	$ 3,069,000	$ 1,023,000	$ 649,000	$ 8,125,000	$ 5,576,000	$ 5,478,000	$ 3,732,000
		Interstate-Pop > 1,000K	$ 9,610,000	$ 6,310,000	$ 5,955,000	$ 2,010,000	$ 1,074,000	$ 18,210,000	$ 13,865,000	$ 13,623,000	$ 8,995,000
		Other Prin Arterial-Pop <50K	$ 2,119,000	$ 1,430,000	$ 1,753,000	$ 419,000	$ 343,000	$ 3,240,000	$ 2,592,000	$ 2,481,000	$ 2,141,000
		Other Prin Arterial-Pop 50-200K	$ 2,267,000	$ 1,447,000	$ 1,833,000	$ 507,000	$ 405,000	$ 3,997,000	$ 2,809,000	$ 2,697,000	$ 2,385,000
		Other Prin Arterial-Pop 200-1,000K	$ 3,238,000	$ 2,121,000	$ 2,681,000	$ 836,000	$ 509,000	$ 5,487,000	$ 4,110,000	$ 4,023,000	$ 3,153,000
		Other Prin Arterial-Pop > 1,000K	$ 7,023,000	$ 4,397,000	$ 5,717,000	$ 1,645,000	$ 822,000	$ 13,915,000	$ 9,595,000	$ 9,333,000	$ 8,198,000
		Min Arterials & Coll-Pop <50K	$ 1,561,000	$ 1,080,000	$ 1,326,000	$ 306,000	$ 251,000	$ 2,338,000	$ 1,915,000	$ 1,817,000	$ 1,589,000
		Min Arterials & Coll-Pop 50-200K	$ 1,636,000	$ 1,093,000	$ 1,338,000	$ 353,000	$ 285,000	$ 2,868,000	$ 2,017,000	$ 1,919,000	$ 1,734,000
		Min Arterials & Coll-Pop 200-1,000K	$ 2,202,000	$ 1,461,000	$ 1,830,000	$ 534,000	$ 350,000	$ 3,733,000	$ 2,796,000	$ 2,719,000	$ 2,210,000
		Min Arterials & Coll-Pop > 1,000K	$ 5,542,000	$ 3,635,000	$ 2,768,000	$ 1,071,000	$ 583,000	$ 11,549,000	$ 9,595,000	$ 9,333,000	$ 5,925,000

ENGINEERS
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